



Specifications

FOR

CONTRACT PACKAGE 6 – RETURN FLOW PIPELINE, 18-INCH SANITARY SEWER, AND OUTFALL FACILITIES

Volume I of II

**Greeley and Hansen LLC
741 North Grand Avenue, Suite 308
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**May 2019
90% Submittal Documents**

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WAUKESHA WATER UTILITY
GREAT LAKES WATER SUPPLY PROGRAM

TABLE OF CONTENTS

VOLUME I OF II

PROCUREMENT AND CONTRACTING REQUIREMENTS

NOTICE TO BIDDERS	00 11 13
INSTRUCTIONS TO BIDDERS	00 21 13
CERTIFICATION OF DEBARMENT	00 32 00
BID FORM	00 41 00
BID BOND	00 43 00
NOTICE OF AWARD	00 51 00
AGREEMENT	00 52 00
NOTICE TO PROCEED	00 55 00
PERFORMANCE BOND	00 61 13
PAYMENT BOND	00 61 16
GENERAL CONDITIONS	00 72 00
SUPPLEMENTARY CONDITIONS	00 73 00
U.S. ENVIRONMENTAL PROTECTION AGENCY CERTIFICATION OF NONSEGREGATED FACILITIES	00 82 30
NOTICE TO LABOR OR UNIONS OR OTHER ORGANIZATIONS OF WORKERS NONDISCRIMINATION IN EMPLOYMENT	00 82 40
DISADVANTAGED BUSINESS ENTERPRISE (DBE) PARTICIPATION	00 82 50
SIGNATURES AND SEALS	00 90 00

TECHNICAL SPECIFICATIONS

DIVISION 1 - GENERAL REQUIREMENTS

Summary of Work	01 11 00
Change Order, Work Change Directive and Field Order Procedures	01 26 00
Measurement and Payment	01 29 00
Coordination and Meetings	01 31 00

Progress Schedule	01 32 17
Submittals	01 33 00
References	01 42 00
Preconstruction Videos	01 44 00
Quality Control	01 45 00
Leakage Tests	01 45 50
Construction Facilities and Temporary Controls	01 50 00
Material and Equipment	01 60 00
Lines and Grades	01 71 23
Cutting and Patching	01 73 29
Cleaning	01 74 00
Contract Close Out	01 78 00
Operation and Maintenance Manuals	01 78 23
Training	01 79 00

VOLUME II OF II

DIVISION 2 - EXISTING CONDITIONS

Impacted Soil and Groundwater Management	02 50 00
--	----------

DIVISION 3 - CONCRETE

Structural Concrete	03 30 10
---------------------	----------

DIVISION 4 - MASONRY

Concrete Unit Masonry	04 22 00
-----------------------	----------

DIVISION 5 - METALS

Post-Installed Anchors	05 05 19
Welding	05 05 23
Open Web Steel Joist Framing	05 21 19
Steel Decking	05 31 00
Metal Fabrications	05 50 00
Aluminum Railings	05 52 16
Metal Gratings	05 53 00

DIVISION 7 – THERMAL AND MOISTURE PROTECTION

Standing Seam Metal Roof Panel	07 61 13
Sheet Metal Flashing and Trim	07 62 00

Snow Guards	07 72 53
Joint Sealers	07 90 00

DIVISION 8 - OPENINGS

Aluminum Doors and Frames	08 11 16
Finish Hardware	08 71 00
Metal Louvers	08 91 00

DIVISION 9 - FINISHES

High Performance Coatings	09 96 00
---------------------------	----------

DIVISION 23 – HEATING, VENTILATING, AND AIR CONDITIONING

HVAC Power Ventilators	23 34 23
------------------------	----------

DIVISION 26 - ELECTRICAL

Basic Electrical Materials and Methods	26 05 00
Electric Utility Coordination and Requirements	26 05 10
Wires and Cables - 600 Volts and Below	26 05 19
Grounding	26 05 26
Electrical Raceway Systems	26 05 33
Underground Electrical Distribution System	26 05 43
Electrical Identification	26 05 53
Electric Motors	26 05 80
Panelboards	26 24 16
Wiring Devices	26 27 26
Disconnect Switches	26 28 16
Control Components and Devices	26 29 53
Lighting	26 50 00

DIVISION 28 – ELECTRICAL SAFETY AND SECURITY

Access Control	28 10 00
Signaling and Alarm	28 31 00

DIVISION 31 - EARTHWORK

Site Clearing	31 10 00
Excavation	31 23 16
Dewatering	31 23 19

Backfilling	31 23 23
Erosion and Sediment Controls	31 25 13
Tree Protection and Root Pruning (Outfall Facilities)	31 32 10
Shoring, Sheet piling And Bracing	31 41 00

DIVISION 32 - EXTERIOR IMPROVEMENTS

Base Courses	32 11 23
Asphalt Paving	32 12 00
Concrete Paving	32 13 00
Concrete Curbs	32 16 13
Concrete Sidewalks	32 16 23
Permanent Pavement Marking	32 17 23
Landscaping Work	32 90 00
Soil Preparation (Outfall Facilities)	32 91 13
Restoration Wildflowers and Grasses (Outfall Facilities)	32 92 00
Exterior Plants (Outfall Facilities)	32 93 01
Traffic Control	32 95 00

DIVISION 33 - UTILITIES

Horizontal Directional Drilling	33 05 22
Jacking, Augering and Mining	33 05 23
Laying and Jointing Buried Pipelines	33 05 50
Buried Fiberglass Reinforced Plastic Pipe and Fittings	33 05 52
Buried High Density Polyethylene Pipe and Fittings	33 05 53
Polyethylene Encasement	33 05 54
Buried Ductile Iron Pipe and Fittings	33 05 55
Stainless Steel Pipe and Fittings	33 05 56
Buried Polyvinyl Chloride Pipe and Fittings	33 05 57
Cathodic Protection	33 05 58
Sewer Manholes	33 05 60
Pipeline Vaults	33 05 61
Locating Buried Pipelines	33 05 70

DIVISION 40 - PROCESS INTEGRATION

Supports and Anchors	40 05 01
Erecting and Jointing Interior and Exposed Exterior Piping	40 05 10
Steel Pipe and Fittings	40 05 17
Miscellaneous Pipe and Fittings	40 05 18
Valves	40 05 20
Process Control System Commissioning	40 80 50
Process Control System General Requirements	40 90 00
Process Control System Instruments	40 91 00

Special Systems	40 91 12
Programmable Logic Controller Systems	40 94 43
Process Control System Panel Enclosures and Equipment	40 95 13
Telemetry System	40 95 60
Process Control System Factory Acceptance Testing	40 98 50

DIVISION 44 – POLLUTION AND WASTE CONTROL EQUIPMENT

Submersible Pumps	44 42 56
-------------------	----------

DIVISION 46 – WATER AND WASTEWATER EQUIPMENT

Cascade Aerator	46 51 53
-----------------	----------

APPENDIX BOOK

APPENDICES

Appendix I	4-230 D5 Phase II Environmental Site Assessment Report – Site 3.29/3.30 – 7521 & 7520 West Ryan Road, Franklin, Wisconsin
Appendix II	4-220 D11 Geotechnical Report, Contract Package 6, Return Flow Pipeline Stations 3000+00 to 4000+00
Appendix III	West Shore Pipe Line Crossing Criteria
Appendix IV	Pothole Information*
Appendix V	WE Energies*
Appendix VI	Easement Documentation*

* Not included in the 90% submittal.

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SECTION 00 11 13

NOTICE TO BIDDERS

WAUKESHA WATER UTILITY
CITY OF WAUKESHA, WISCONSIN
CONTRACT PACKAGE 6

Sealed bids will be received for the construction of the Waukesha Water Utility, City of Waukesha, Wisconsin, Contract Package 6.

The bids will be received by the Water Utility Commission at the Waukesha Water Utility Office, located at 115 Delafield Street, Waukesha, Wisconsin, 53187, on _____, 20__ at ____ A.M. Prevailing Time, at which time and place they will be publicly opened and read aloud.

The Work comprises furnishing all labor, materials, equipment, supplies and services for the following:

Approximately 11.27 miles of new 30-inch ductile iron pipe main (referred to as the “Return Flow Pipeline”) from the contract package interface with Contract Package 5 located on Small Road west of the intersection of Small Road and Westridge Drive in the City of New Berlin to the new Outfall Facilities at the Root River located at the southeast quadrant of the intersection of South 60th Street and West Oakwood Road in the City of Franklin. Work includes open cut construction of the new pipeline, steel casings via the jack and bore method, horizontal directional drilling, isolation valves, blow-off assemblies, air valves, fittings, cathodic protection, testing, traffic control, erosion and sedimentation control, obtaining applicable permits, traffic control, restoration of roadway, landscape, and other existing infrastructure, and all other appurtenant Work as shown and specified in the Contract Documents entitled Contract Package 6.

Approximately 3,950 linear feet of new 18-inch fiberglass reinforced plastic (FRP) pipe (referred to as the “18-Inch Sanitary Sewer”) from the connection point located on 60th Street, just south of Ryan Road in the City of Franklin to the existing sewer collection system near the 60th Street Industrial Park Lift Station located on 60th Street, about 4,000 feet south of Ryan Road in the City of Franklin. Work includes open cut construction of the new sanitary sewer (or approved alternative construction method), installation of concrete manholes, backfilling and compaction, upstream and downstream tie-in connections to the existing sewer system, bypass pumping, and abandonment of the 60th Street Industrial Park Lift Station. Per Specification 01 29 00 Measurement and Payment, the Work for the pipeline installation portion of the contract is limited to only the Work that occurs starting 6 inches below the invert of the adjacent Return Flow Pipeline, except for the manhole installation, which is fully included in this Work item.

New Outfall Facilities at the Root River located at the southeast quadrant of the intersection of South 60th Street and West Oakwood Road in the City of Franklin and new outfall piping

to the Root River. Work includes site grading, construction of the reaeration structure, all structural and architectural work related to the building construction, electrical and controls, HVAC, sight lighting, asphalt drive paving, open cut construction of the new 30-inch discharge inverted siphon, outfall structure, including construction within the limits of the Root River, erosion and sediment control, final landscaping, obtaining applicable permits, and all other appurtenant Work as shown and specified in the Contract Documents entitled Contract Package 6.

Any contract or contracts awarded under this Notice to Bidders are expected to be funded by the Environmental Protection Agency (EPA) Water Infrastructure Finance and Innovation Act (WIFIA) program and the Wisconsin Department of Natural Resources (WDNR) Safe Drinking Water Loan (SDWL) Program. All federal regulations, policies, guidelines and requirements as they relate to the acceptance of federal funds for this project shall be complied by Bidders. Neither the EPA or State of Wisconsin nor any of its departments, agencies, or employees is or will be a party to this Notice to Bidders or any resulting contract.

The procurement will be subject to the Federal Davis Bacon Act wage rules. All laborers and mechanics employed by contractors and subcontractors on projects shall be paid wages at rates not less than those prevailing on projects of a character similar in the locality as determined by the Secretary of Labor in accordance with subchapter IV of Chapter 31 of Title 40, United States Code.

This procurement will be also subject to the loan recipient's policy regarding the increased use of disadvantaged business enterprises (DBEs). DBEs are encouraged to submit Bids and proposals for this contract. The loan recipient's policy requires all bidders to undertake specified affirmative efforts and document the process with the required contract forms in Section 00 82 50, or provide a copy of their bid advertisement.

Bidders are also required to comply with the President's Executive Order No. 11246, as amended. The requirements for bidders and contractors under this order are explained in 41 CFR 60-4. Bidders are also required to adhere to the requirements of the Use of American Iron and Steel Requirement in accordance with the Consolidated Appropriations Act, the Water Resources Reform and Development Act, and Wisconsin State Statutes.

Bidders had to meet the pre-qualification requirements of the Great Lakes Water Supply Program.

Each Bid must be accompanied by a certified or bank cashier's check on a solvent bank or trust company, drawn to the order of the Waukesha Water Utility, or an acceptable Bid Bond on the form attached, in an amount of not less than 5 percent of the total bid. This sum is a guarantee that, if the Bid is accepted, a contract will be entered into and its performance properly secured.

A mandatory pre-bid conference will be held on _____, 20__ at ____ A.M. at the Waukesha Water Utility Office located at the address provided above. Prospective Bidders

are required to attend this conference. Bids submitted by Bidders who have not attended the pre-bid conference will be returned unopened.

The Bidding Documents, Contract Documents, Specifications, Drawings, and Addenda, if any, may be digitally downloaded beginning _____, 20____, from _____ for a non-refundable fee of \$____. Paper copies of the documents will not be available for purchase or examination.

The Waukesha Water Utility reserves the right to reject any or all Bids or to waive any informalities and to accept the bid which it deems most favorable to the interests of the Waukesha Water Utility, after all bids have been examined and canvassed.

The letting of the work described herein is subject to the provisions of Sec. 62.15, 66.0901, 779.14, 779.15, Wisconsin Statutes, and all other relevant provisions of federal, state, and local law.

Waukesha Water Utility

By: _____

Title: _____

Dated: _____

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SECTION 00 21 13

INSTRUCTIONS TO BIDDERS

ARTICLE 1 DEFINED TERMS

- 1.01 Terms used in these Instructions to Bidders will have the meanings indicated in the General Conditions and Supplementary Conditions. Additional terms used in these Instructions to Bidders have the meanings indicated below which are applicable to both the singular and plural form thereof:
- A. Commission - Commission shall mean the Waukesha Water Utility Commission, Waukesha, Wisconsin.
 - B. Issuing Office – Issuing office shall mean the office from which the Bidding Documents are to be issued and where the bidding procedures are to be administered.
 - C. Great Water Alliance – Great Water Alliance shall mean Waukesha Water Utility's program to transition the OWNER's primary source of potable water supply from groundwater to Lake Michigan water consisting of a new water supply system and a new return flow system.

Waukesha Water Utility is hereinafter called OWNER, and the Project has been designed by Greeley and Hansen LLC who is hereinafter called ENGINEER. Black & Veatch Corporation is hereinafter called RESIDENT PROJECT REPRESENTATIVE.

ARTICLE 2 COPIES OF BIDDING DOCUMENTS

- 2.01 Refer to the Notice to Bidders for information on how and where copies of the Bidding Documents may be obtained.
- 2.02 Complete sets of Bidding Documents must be used in preparing Bids; neither OWNER nor ENGINEER assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.
- 2.03 OWNER and ENGINEER in making copies of Bidding Documents available do so only for the purpose of obtaining Bids for the Work and do not confer a license or grant for any other use.

ARTICLE 3 QUALIFICATIONS OF BIDDERS

- 3.01 Bidders had to meet the prequalification requirements of the Great Water Alliance.
- 3.02 In evaluating Bids, OWNER will consider the qualifications of only those Bidders whose Bids are in compliance with the prescribed requirements.

- 3.03 The Bidder had to be present at the mandatory pre-bid conference as stipulated in the Notice to Bidders.
- 3.04 Bidder is advised to carefully review those portions of the Bid Form requiring Bidder's representations and certifications. Bidders must complete and submit the Certification of Debarment, Certification of Nonsegregated Facilities, Non-discrimination in Employment, DBE Participation Certificate, and other Responsibility Matter forms included in the Bidding Documents. A Checklist is included in Article 13.16. Failure to submit any required form shall be deemed incomplete bid package and the Bid shall be rejected by OWNER.

ARTICLE 4 EXAMINATION OF BIDDING DOCUMENTS, SITE, AND OTHER

4.01 Existing Site Conditions

- A. The Site is identified in the Bidding Documents. By definition, the Site includes rights-of-way, easements, and other lands furnished by OWNER for the use of the Contractor. Any additional lands required for temporary construction facilities, construction equipment, or storage of materials and equipment, and any access needed for such additional lands, are to be obtained and paid for by Contractor.
- B. Easements for permanent structures or permanent changes in existing facilities are to be obtained and paid for by OWNER unless otherwise required in the Bidding Documents.

4.02 Subsurface and Physical Conditions

- A. The Supplementary Conditions identify:
 - 1. Those reports of explorations and tests of subsurface conditions at or contiguous to the Site that ENGINEER has used in preparing the Bidding Documents.
 - 2. Those drawings of physical conditions in or relating to existing surface and subsurface structures at or contiguous to the Site (except Underground Facilities) that ENGINEER has used in preparing the Bidding Documents.
- B. Copies of reports and drawings referenced in Paragraph 4.02.A of this Article will be made available by OWNER to any Bidder on request. Those reports and drawings are not part of the Contract Documents, but the "technical data" contained therein upon which Bidder is entitled to rely as provided in Paragraph 5.03 of the General Conditions has been identified and established in Paragraph SC-5.03 of the Supplementary Conditions. Bidder is responsible for any interpretation or conclusion Bidder draws from any "technical data" or any other data, interpretations, opinions or information contained in such reports or shown or indicated in such drawings.

4.03 Underground Facilities

- A. Information and data shown or indicated in the Bidding Documents with respect to existing Underground Facilities at or contiguous to the Site is based upon information and data furnished to OWNER and ENGINEER by owners of such Underground Facilities, including OWNER, or others.

4.04 Hazardous Environmental Condition

- A. The Supplementary Conditions identify those reports and drawings relating to a Hazardous Environmental Condition identified at the Site, if any, that ENGINEER has used in preparing the Bidding Documents.
- B. Copies of reports and drawings referenced in Paragraph 4.03.A of Article 4 will be made available by OWNER to any Bidder when requested. Those reports and drawings are not part of the Contract Documents, but the “technical data” contained therein upon which Bidder is entitled to rely as provided in Paragraph 5.06 of the General Conditions has been identified and established in Paragraph SC-5.06 of the Supplementary Conditions. Bidder is responsible for any interpretation or conclusion Bidder draws from any “technical data” or any other data, interpretations, opinions, or information contained in such reports or shown or indicated in such drawings.

4.05 Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to subsurface conditions, other physical conditions and Underground Facilities and possible changes in the Bidding Documents due to differing or unanticipated conditions appear in Paragraphs 5.03, 5.04, and 5.05 of the General Conditions. Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to a Hazardous Environmental Condition at the Site, and possible changes in the Contract Documents due to any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated or identified in the Contract Documents to be within the scope of the Work appear in Paragraph 5.06 of the General Conditions.

4.06 On request, and to the extent OWNER has control over the Site, and schedule permitting, the OWNER will provide Bidder access to the Site to conduct, at their own expense, such examinations, investigations, explorations, tests, and studies as Bidder deems necessary for submission of a Bid. Bidder to comply with all applicable Laws and Regulations regarding excavation and location of utilities, obtain all permits, and comply with all terms and conditions established by OWNER or by property owners or other entities controlling the Site with respect to schedule, access, existing operations, security, liability insurance, and applicable safety programs.

4.07 Bidder to fill all holes and clean up and restore the Site to its former condition upon completion of such explorations, investigations, tests, and studies.

ARTICLE 5 BIDDER'S REPRESENTATIONS

- 5.01 Reference is made to Article 8 of the Supplementary Conditions for the identification of the general nature of other work that is to be performed at the Site by OWNER or others (such as utilities and other prime contractors) that relates to the Work for which a Bid is to be submitted. Access to digital copies of Contract Documents (other than portions thereof related to price) for such other work will be made available to Bidders upon request.
- 5.02 It is the responsibility of each Bidder before submitting a Bid to:
- A. Examine and carefully study the Bidding Documents, including any Addenda and the other related data identified in the Bidding Documents;
 - B. Visit the Site and become familiar with and satisfy Bidder as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work;
 - C. Become familiar with and satisfy Bidder as to all federal, state, and local Laws and Regulations that may affect cost, progress, or performance of the Work;
 - D. Carefully study all reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) which have been identified in the Supplementary Conditions as provided in Paragraph 5.03 of the General Conditions, and carefully study all reports and drawings of a Hazardous Environmental Condition, if any, at the Site which have been identified in the Supplementary Conditions as provided in Paragraph 5.06 of the General Conditions;
 - E. Obtain and carefully study (or assume responsibility for doing so) all examinations, investigations, explorations, tests, studies, and data concerning conditions (surface, subsurface, and Underground Facilities) at or contiguous to the Site which may affect cost, progress, or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including any specific means, methods, techniques, sequences, and procedures of construction expressly required by the Contract Documents, and safety precautions and programs incident thereto;
 - F. Consider the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and the Site-related reports and drawings identified in the Contract Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder; and (3) Bidder's safety precautions and programs;

- G. Agree at the time of submitting its Bid that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of its Bid for performance of the Work at the price bid and within the times and in accordance with the other terms and conditions of the Bidding Documents;
 - H. Become aware of the general nature of the work to be performed by OWNER and others at the Site that relates to the Work as indicated in the Bidding Documents;
 - I. Correlate the information known to Bidder, information and observations obtained from visits to the Site, reports and drawings identified in the Contract Documents, and all additional examinations, investigations, explorations, tests, studies, and data with the Bidding Documents;
 - J. Promptly give ENGINEER written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder discovers in the Contract Documents and confirm that the written resolution thereof by ENGINEER is acceptable to Bidder, and
 - K. Determine that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work.
- 5.03 The submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article 5, that without exception the Bid is premised upon performing and furnishing the Work required by the Bidding Documents and applying any specific means, methods, techniques, sequences, and procedures of construction that may be shown or indicated or expressly required by the Bidding Documents, that Bidder has given ENGINEER written notice of all conflicts, errors, ambiguities, and discrepancies that Bidder has discovered in the Bidding Documents and the written resolutions thereof by ENGINEER are acceptable to Bidder, and that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the Work.

ARTICLE 6 PRE-BID CONFERENCE

- 6.01 A mandatory pre-bid conference will be held at the time, date, and place indicated in the Notice to Bidders.

Representatives of OWNER, ENGINEER, and RESIDENT PROJECT REPRESENTATIVE will be present to discuss the Project. Bidders are required to attend and encouraged to participate in the conference. ENGINEER will transmit to all prospective Bidders of record, such Addenda as ENGINEER compiles as a result of the conference. All questions shall be submitted in writing to be considered for response via addenda. Oral statements made during the pre-bid conference are not to be relied upon and will not be binding or legally effective.

ARTICLE 7 INTERPRETATIONS AND ADDENDA

- 7.01 No interpretation of the meaning of the Contract Documents will be made to any Bidder orally. All questions about the meaning or intent of the Bidding Documents are to be directed to ENGINEER in writing to Greeley and Hansen LLC, 741 North Grand Avenue, Suite 308, Waukesha, Wisconsin 53186. Questions may also be emailed to crichardson@greeley-hansen.com. Interpretations or clarifications considered necessary by ENGINEER in response to such questions will be issued by Addenda which, if issued, will be sent to all parties recorded by ENGINEER as having received the Contract Documents, not later than five (5) days prior to the date fixed for the Bid opening. Questions received less than eight (8) days prior to the date for opening of Bids may not be answered.
- 7.02 Written clarifications or interpretations will be issued by Addenda not later than five (5) days before the bid opening date. Only questions answered by formal written Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.
- 7.03 Addenda may be issued to clarify, correct, or change the Bidding Documents as deemed advisable by OWNER or ENGINEER.
- 7.04 Failure of any Bidder to receive any addenda does not relieve said Bidder from any obligation under the Bid as submitted. All addenda issued become part of the Contract Documents. Bidders are responsible for determining that they have received all addenda issued.

ARTICLE 8 BID SECURITY

- 8.01 Each Bid must be accompanied by Bid Security made payable to OWNER in an amount no less than five (5) percent of Bidder's total maximum bid computed price. The Bid Security shall be in the form of a certified or bank cashier's check or a Bid Bond, on the form attached, issued by a surety meeting the requirements of paragraphs 6.01 of the General Conditions.
- 8.02 The Bid security of the apparent Successful Bidder will be retained until such Bidder has executed the Contract Documents, furnished the required contract security and met the other conditions of the Notice of Award, whereupon the Bid security will be returned. If the Successful Bidder fails to execute and deliver the Contract Documents and furnish the required contract security within fifteen (15) days after the Notice of Award, OWNER may annul the Notice of Award and the Bid security of that Bidder will be forfeited. Such forfeiture shall be OWNER's exclusive remedy if Bidder defaults.
- 8.03 All bids shall remain open for ninety (90) days after the actual date of the opening of the Bids, but the OWNER may, at the OWNER's sole discretion, release any Bid and return the Bid Security prior to that date.

- 8.04 Bid Security of other Bidders whom OWNER believes do not have a reasonable chance of receiving the award will be returned within seven days after the Bid opening.

ARTICLE 9 CONTRACT TIMES

- 9.01 The number of days within which, or the dates by which, the Work is to be (a) Substantially Completed and (b) also completed and ready for final payment are set forth in the Agreement.

ARTICLE 10 LIQUIDATED DAMAGES

- 10.01 Provisions for liquidated damages, if any, for failure to timely attain a Milestone, Substantial Completion, or completion of the Work in readiness for final payment, are set forth in the Agreement.

ARTICLE 11 SUBSTITUTE AND "OR-EQUAL" ITEMS

- 11.01 The Contract, if awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents without consideration of possible substitute or "or-equal" items. Whenever it is indicated in the Bidding Documents that a substitute or "or-equal" item of material or equipment may be furnished or used by CONTRACTOR if acceptable to ENGINEER, application for such acceptance will not be considered by ENGINEER until after the Effective Date of the Agreement. The procedure for submission of any such application by CONTRACTOR and consideration by ENGINEER is set forth in the General Conditions and may be supplemented in the Supplemental Conditions

ARTICLE 12 SUBCONTRACTORS, SUPPLIERS, AND OTHERS

- 12.01 The CONTRACTOR will identify all Subcontractors in its Bid. Any addition to, deletion from, or other change to the list of Subcontractors identified in the CONTRACTOR's Bid may not take place without the advance written approval of the OWNER. The OWNER reserves the right to approve or disapprove of any Subcontractor within five (5) days of being notified that the CONTRACTOR intends to enter into a subcontract. All Subcontractors will be bound by all applicable terms and conditions of the Contract between the OWNER and the CONTRACTOR.

ARTICLE 13 PREPARATION OF BID

- 13.01 All blanks on the Bid Form shall be completed by printing in black or blue ink or typewriter and the Bid signed. Erasures or alterations shall be initialed in ink by the person signing the Bid Form. A Bid price shall be indicated for each Bid item, alternate, and unit price item listed therein.

- 13.02 If the Bid Form expressly indicates that submitting pricing on a specific alternate item is optional, and Bidder elects to not furnish pricing for such optional alternate item, then Bidder may enter the words “No Bid” or “Not Applicable.”
- 13.03 A Bid which includes for any item a Bid Price that is abnormally low or high may be rejected as unbalanced.
- 13.04 A conditional or qualified Bid will not be accepted.
- 13.05 All names shall be printed in black or blue ink or with typewriter below signatures.
- 13.06 A bid by a corporation shall be executed in the corporate name by the president or a vice-president or other corporate officer accompanied by evidence of authority to sign. The corporate seal must be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation shall be shown below the signature.
- 13.07 A bid by a partnership shall be executed in the partnership name and signed by a partner, whose title must appear under the signature, accompanied by evidence of authority to sign. The official address of the partnership shall be shown below the signature.
- 13.08 A bid by a limited liability company shall be executed in the name of the firm by a member and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm must be shown below the signature.
- 13.09 A bid by an individual shall show the Bidder’s name and official address.
- 13.10 A bid by a joint venture shall be executed by each joint venturer in the manner indicated on the Bid form. The official address of the joint venture must be shown below the signature.
- 13.11 The bid shall contain an acknowledgment of receipt of all Addenda, the numbers of which shall be filled in on the Bid Form.
- 13.12 Postal and e-mail addresses and telephone number for communications regarding the bid shall be shown.
- 13.13 The bid shall contain evidence of Bidder’s authority and qualification to do business in the state where the Project is located, or Bidder shall covenant in writing to obtain such authority and qualification prior to award of the Contract and attach such covenant to the bid. Bidder’s state contractor license number, if any, shall also be shown on the Bid Form.
- 13.14 Certification that the Bidder is not barred from public contracting due to bid-rigging or bid rotation convictions must accompany the bid.

- 13.15 All bids shall be signed in the presence of and be notarized by a Notary Public or other Officer authorized to administer oaths.
- 13.16 Attached to the end of this Section is a checklist of items that must be submitted with the bid.

ARTICLE 14 BASIS OF BID, EVALUATION OF BIDS

14.01 Unit Cost Items

- A. Bidders shall include a separate price for each unit cost item described in the Bidding Documents and as provided for in the Bid Form. Unit cost items may be additive or deductive. If the OWNER elects to add or remove a quantity of a unit cost item from the Contract, the amount will be added to or deleted from the contract amount after execution of the Agreement.

14.02 Lump Sum

- A. Bidders shall submit a Bid on a lump sum basis as set forth in the Bid form.

ARTICLE 15 SUBMITTAL OF BID

- 15.01 A bid shall be received by the OWNER no later than the time and place indicated in the Notice to Bidders and shall be enclosed in an opaque sealed envelope, marked with Waukesha Water Utility, City of Waukesha, Wisconsin, Contract Package 6, the name and address of Bidder, and shall be accompanied by the Bid security and other required documents. If the Bid is sent through the mail or other delivery system, the sealed envelope containing the Bid must be enclosed in a separate envelope plainly marked on the outside with the notation "BID ENCLOSED." If the Bid is sent via United States Postal Service, the mailed bid shall be addressed to Waukesha Water Utility, 115 Delafield Street, PO Box 1648, Waukesha, Wisconsin, 53187-1648. If the Bid is sent via services such as FedEx or United Parcel Service, the mailed bid shall be addressed to Waukesha Water Utility Office, located at 115 Delafield Street, Waukesha, Wisconsin, 53187. Mailed Bids must be received no later than the time fixed for opening Bids.
- 15.02 Bidders are cautioned that it is the responsibility of each individual Bidder to assure that their Bid is in the possession of the responsible official, or the designated alternate, prior to the stated time and at the place of the Bid Opening. Bids received after the date and time prescribed for the opening of Bids, or not submitted at the correct location or in the designated manner, will not be accepted and will be returned to the Bidder unopened.
- 15.03 Each Bidder shall accompany their Bid with a sworn statement in writing that the Bidder had not directly or indirectly entered into an agreement, expressed or implied, with any other Bidder concerning the price or amount of such Bid or any Bids, the

limiting of the Bid or Bidders, the paying to anyone any money for promotion expenses, the parceling or farming out to any Bidder or Bidders or other persons of any party of the contract or any part of the subject matter of the Bid or of the profits thereof.

15.04 OWNER is not responsible for bids delayed by mail or delivery services of any nature.

ARTICLE 16 MODIFICATION AND WITHDRAWAL OF BID

16.01 A Bid may be modified or withdrawn by an appropriate document duly executed in the manner that a Bid must be executed and delivered to the place where Bids are to be submitted prior to the scheduled date and time (or authorized postponement thereof) for the opening of Bids.

16.02 If, within 24 hours after Bids are opened, any Bidder files a duly signed, written notice with OWNER and promptly thereafter demonstrates to the reasonable satisfaction of OWNER that there was a material and substantial mistake in the preparation of its Bid, that Bidder may withdraw its Bid and the Bid security will be returned. Thereafter, that Bidder will be disqualified from further bidding on the Work to be provided under the Contract Documents. After the 24 hour period after Bids are opened, no Bid may be withdrawn for a period of ninety (90) days after the actual date of the opening of the Bids.

16.03 Should there be reasons why the contract cannot be awarded within the specified period, the time may be extended by mutual agreement between the OWNER and the Bidder.

ARTICLE 17 INDEMNIFICATION

17.01 The Contractor will save, indemnify and hold harmless the OWNER against all claims, liability, judgments, costs, expenses, and attorney's fees of any kind whatsoever which may in any way come against the OWNER as a consequence of the granting of the Contract, or by reason of any act or omission of the Contractor or the Contractor's agents, employees, subcontractors, or assignees, arising out of the performance of the Contract.

ARTICLE 18 OPENING OF BIDS

18.01 The Bid opening is open to the public. The Bid Proposals shall be opened and read aloud by the OWNER. The successful Bidder shall be notified at the earliest possible date in writing by the OWNER following approval by the City of Waukesha Common Council.

18.02 The OWNER reserves the right to reject any or all Bids or to waive any informalities and to accept the bid which it deems most favorable to the interests of the OWNER, after all bids have been examined and canvassed.

ARTICLE 19 BIDS TO REMAIN SUBJECT TO ACCEPTANCE

- 19.01 All Bids will remain subject to acceptance for the period of time stated in the Bid Form, but OWNER may, in its sole discretion, release any Bid and return the Bid security prior to the end of this period.

ARTICLE 20 AWARD OF CONTRACT

- 20.01 The Contract will be awarded to the low, responsive, responsible Bidder.

- A. In evaluating Bids, OWNER will consider whether or not the Bids comply with the prescribed requirements, and such unit prices and other data, as may be requested in the Bid Form. Responsive Bidders shall provide Bids for all requested unit or lump sum prices for each item set forth on the Bid Form. Any Bid which contains blank items will be considered unresponsive.
- B. The term “low, responsive, responsible Bidder” as used herein shall mean the Bidder whose Bid is the lowest of those Bidders possessing the skill, ability and integrity necessary to the faithful performance of the Work and submits a Bid meeting all requirements. The OWNER reserves the right to reject any or all Bids or to waive any informalities and to accept the bid which it deems most favorable to the interests of the OWNER, after all bids have been examined and canvassed.
- C. The low Bid will be determined based on the Bidder’s total maximum bid price amount listed in the Bid Form.
- D. OWNER may conduct such investigations as OWNER deems necessary to assist in the evaluation of any Bid and to establish the responsibility, qualifications, and financial ability of Bidders, proposed Subcontractors, Suppliers, individuals or entities to perform the Work in accordance with the Contract Documents to OWNER’s satisfaction within the prescribed time. Bidder shall furnish to OWNER all such information and data for this purpose as OWNER may request. OWNER reserves the right to reject any Bid if the evidence submitted by, or investigation of, such Bidder fails to satisfy OWNER that such Bidder is properly qualified to carry out the obligations of the Contract Documents and to complete the work contemplated therein.
- E. More than one Bid for the same Work from an individual or entity under the same or different names will not be considered. Reasonable grounds for believing that any Bidder has an interest in more than one Bid for the Work may be cause for disqualification of that Bidder and the rejection of all Bids in which that Bidder has an interest.
- F. In evaluating Bidders, OWNER will consider the qualifications of Bidders and may consider the qualifications and experience of proposed Subcontractors, Suppliers, and other individuals or entities proposed for those portions of the

Work for which the identity of Subcontractors, Suppliers, and other individuals or entities must be submitted as described in the Supplementary Conditions.

- G. OWNER may conduct such investigations as OWNER deems necessary to establish the responsibility, qualifications and financial ability of Bidders to perform the Work in accordance with the Contract Documents.
- 20.02 The Contract will be awarded on the basis of material and equipment described in the Contract Documents without consideration of possible substitute or “or equal” items. Whenever it is indicated in the Contract Documents that a substitute or “or equal” item of material or equipment may be furnished or used by the Bidder, if acceptable to the ENGINEER, application for such acceptance will not be considered by the ENGINEER until after the “effective date of the Agreement.” The procedure for submittal of any such application by the Bidder and consideration by the ENGINEER is set forth in Section 01 60 00 of the Contract Document.
- 20.03 The award of the Contract is contingent upon the OWNER securing the requested loan from the Environmental Protection Agency (EPA) Water Infrastructure Finance and Innovation Act (WIFIA) program and the Wisconsin Department of Natural Resources (WDNR) Clean Water Fund Program (CWFP) within ninety (90) days of the Bid opening.
- 20.04 If the Contract is to be awarded, after evaluation of the Bids, the OWNER will issue a letter to the Successful Bidder. OWNER will give the Successful Bidder a Notice of Award within ninety (90) days after the actual date of the opening of the Bids. All bids shall remain open for ninety (90) days after the actual date of the opening of the Bids, but the OWNER may, at the OWNER’s sole discretion, release any Bid and return the Bid Security prior to that date.

ARTICLE 21 CONTRACT SECURITY AND INSURANCE

- 21.01 Article 6 of the General Conditions, as may be modified by the Supplementary Conditions, sets forth OWNER's requirements as to Performance and Payment Bonds and insurance. When the Successful Bidder delivers the executed Agreement to OWNER, it must be accompanied by such Bonds and proof of insurance.
- 21.02 A Performance Bond and a Payment Bond, each in the amount of one hundred percent (100%) of the Contract Price, with a corporate surety approved by the OWNER will be required.
- 21.03 Attorneys-in-fact who sign Payment Bonds and Performance Bonds must file with each Bond.

ARTICLE 22 SIGNING OF AGREEMENT

- 22.01 When OWNER gives a Notice of Award to the Successful Bidder, it will be accompanied by the required number of unsigned counterparts of the Agreement with the other Contract Documents which are identified in the Agreement attached thereto. Within fifteen (15) days thereafter, Successful Bidder shall sign and deliver the required number of counterparts of the Agreement and attached documents to OWNER with the required Bonds and insurance. Within thirty (30) days of the OWNER's receipt of the CONTRACTOR's signed agree thereafter, OWNER shall deliver one fully signed counterpart to Successful Bidder with a complete set of the Drawings.

ARTICLE 23 SAFETY AND HEALTH REGULATIONS

- 23.01 This project is subject to the Safety and Health Regulations (CFR 29, Part 1926 and all subsequent amendments) as promulgated by the U.S. Department of Labor on June 24, 1974 and CFR 29, Part 1910, General Industry Safety and Health Regulations Identified as Applicable to Construction.
- 23.02 The Successful Bidder shall comply with the Department of Labor Safety and Health Regulations for Construction promulgated under the Occupational Safety and Health Act of 1970 (PL-91-596) and under Section 107 of the Contract Work Hours and Safety Standards Act (PL-91-54).
- 23.03 The Successful Bidder shall have a competent person or persons, as required under the Occupational Safety and Health Act, on the Site to inspect the work and to supervise the conformance of the Work with the regulations of the Act.

ARTICLE 24 NONDISCRIMINATION IN EMPLOYMENT

- 24.01 Contracts for Work under this Project will obligate the CONTRACTOR and Subcontractors to not discriminate in employment practices.
- 24.02 The CONTRACTOR shall certify that the firm, partnership, corporation, or joint venture has a written sexual harassment policy defining sexual harassment as required in Section 111.321 Subchapter II Fair Employment of the Wisconsin State Statues.

ARTICLE 25 SALES AND USE TAXES

- 25.01 OWNER is exempt from payment of Wisconsin State Sales and Use Taxes on all materials and equipment to be incorporated into the Work (Exemption No. 2678). Said taxes shall not be included in the Contract Price. Refer to Paragraph SC-7.09 of the Supplementary Conditions for additional information.
- A. OWNER will furnish the required certificates of tax exemption to Contractor for use in the purchase of supplies and materials to be incorporated into the work.

ARTICLE 26 RETAINAGE

- 26.01 Provisions concerning retainage and CONTRACTORS' rights to deposit securities in lieu of retainage are set forth in the Agreement.

ARTICLE 27 WISCONSIN DNR LOAN PROGRAM RELATED PROCUREMENT

- 27.01 Bidders shall submit with their Bid a "Certificate of Publication" and/or adequate evidence of proof of publication including actual copy of the newspaper advertisement from the nation-wide newspaper. Advertisement must run for one (1) consecutive day at least thirty (30) days prior to the Bid opening.
- 27.02 Any contract entered into by the Loan recipient and any subagreement thereunder, shall provide that representatives of the WDNR and any other state, county, or local agencies will have access to the work whenever it is in preparation or progress and that the Bidder will provide proper facilities for such access and inspection. Such contract or subagreement must also provide that the WDNR or any authorized representative shall have access to any books, documents, papers, and records of the contractor or subcontractor which are pertinent to the project for the purpose of making audit, examination, excerpts, and transcriptions thereof.
- 27.03 All applicable laws, ordinances, and the rules and regulations of all authorities having jurisdiction over construction of the Project shall apply to the contract throughout.

ARTICLE 28 WISCONSIN DNR LOAN PROGRAM RELATED TO AMERICAN IRON AND STEEL REQUIREMENTS

- 28.01 The Bidder acknowledges to and for the benefit of Waukesha Water Utility and the State of Wisconsin that it understands the goods and services under this Agreement are being funded with monies made available by the WIFIA program and the SDWL program that have statutory requirements commonly known as "American Iron and Steel;" that requires all of the iron and steel products used in the project to be produced in the United States ("American Iron and Steel Requirement") including iron and steel products provided by the Bidder pursuant to this Agreement.
- 28.02 The Bidder hereby represents and warrants to and for the benefit of the OWNER and the State that (a) the Bidder has reviewed and understands the American Iron and Steel Requirement, (b) all of the iron and steel products used in the project will be and/or have been produced in the United States in a manner that complies with the American Iron and Steel Requirement, and (c) the Bidder will provide any further verified information, certification or assurance of compliance with this paragraph, or information necessary to support a waiver of the American Iron and Steel Requirement, as may be requested by the OWNER or the State.

28.03 Notwithstanding any other provision of this Agreement, any failure to comply with this paragraph by the Bidder shall permit the OWNER or State to recover as damages against the Bidder any loss, expense, or cost (including without limitation attorney's fees) incurred by the OWNER or State resulting from any such failure (including without limitation any impairment or loss of funding, whether in whole or in part, from the State or any damages owed to the State by the OWNER). While the Bidder has no direct contractual privity with the State, as a lender to the OWNER for the funding of its project, the OWNER and the Bidder agree that the State is a third-party beneficiary and neither this paragraph (nor any other provision of this Agreement necessary to give this paragraph force or effect) shall be amended or waived without the prior written consent of the State.

ARTICLE 29 WIFIA

(NO TEXT FOR THIS PAGE)

WAUKESHA WATER UTILITY

CONTRACT PACKAGE 6

Bidder's Checklist of Items to Assist with Bid Submittal

1. Bid Security (Cashier's Check, Certified Check or Bid Bond): 5% of the Bid (Attach to last page of Bid Form - Section 00 41 00)
2. Completed Bid Form Section - Section 00 41 00:
 - a. All names filled in appropriate blanks.
 - b. Acknowledge receipt of Addenda.
 - c. Price Schedule filled out.
 - d. List of Subcontractors.
 - e. List of Project References.
 - f. List of Proposed Suppliers.
 - g. Bid Signed by Officers.
3. Complete Certification of Debarment Section - Section 00 32 00
4. Certification of Non-Segregated Facilities Section - Section 00 82 30
5. Notice to Labor Unions or Other Organizations of Workers - Nondiscrimination in Employment – Section 00 82 40
6. Disadvantaged Business Enterprise (DBE) Participation - Section 00 82 50
 - a. If no subcontracts will be awarded, the Bidder submits page 7.
 - b. Complete Data Sheet #1, Page 11 through Page 13
 - c. Submit Certificate of Publication for 1 day at least 30 days prior to bid opening. Attach to page 15.
 - d. If using a SBE, MBE and/or WBE, each subcontractor completes page 17. Make additional copies, as needed.
 - e. If using a SBE, MBE and/or WBE, the Bidder completes page 19 and 21.
 - f. If not using SBE, MBE and/or WBE, the Bidder submits page 23.

END OF SECTION

(NO TEXT FOR THIS PAGE)

SECTION 00 32 00

CERTIFICATION OF DEBARMENT

Certification Regarding
Debarment, Suspension and Other Responsibility Matters

The prospective participant to the best of its knowledge and belief that it and its principles:

- (a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
- (b) Have not within a three year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property.
- (c) Are not presently indicted for or otherwise criminally or civilly charged by a government entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (1) (b) of this certification; and
- (d) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

I understand that a false statement on this certification may be grounds for rejection of this proposal or termination of the award. In addition, under 18 USC Sec. 1001, a false statement may result in fine of up to \$10,000 or imprisonment for up to 5 years, or both.

(Typed Name & Title of Authorized Representative)

(Signature of Authorized Representative)

(Date)

☐ I am unable to certify the above statements. My explanation is attached.

EPA FORM 5700-49 (11-88)

END OF SECTION

(NO TEXT FOR THIS PAGE)

SECTION 00 41 00

BID FORM

Proposal of _____ (hereinafter called "Bidder"), organized and existing under the laws of the State of _____ doing business as _____ *

to the Waukesha Water Utility, Waukesha, Wisconsin (hereinafter called "OWNER").

* Insert "an individual", "a firm", "a partnership", "a corporation", or "a joint venture" as applicable.

In compliance with your Notice to Bidders, Bidder hereby proposes to perform all Work for the construction of the Contract Package 6 Project in strict accordance with the CONTRACT DOCUMENTS, within the time set forth herein, and at the prices stated below.

Bidder hereby agrees to commence WORK under this contract on or before a date to be specified in the NOTICE TO PROCEED, to substantially and fully complete the PROJECT within the times specified in the AGREEMENT.

ARTICLE 1 BID RECIPIENT AND BIDDER'S INFORMATION

1.01 This Bid is submitted to the Waukesha Water Utility:

1.02 The undersigned Bidder proposes and agrees, if this bid is accepted, to enter into an agreement with the OWNER in the form of the CONTRACT DOCUMENTS to perform and furnish all Work as specified or indicated in the CONTRACT DOCUMENTS for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the CONTRACT DOCUMENTS.

Date of Bid _____

Made by _____

Name of Bidder _____
(Individual, firm, partnership, corporation, or joint venture as case may be)

Business Address of Bidder _____

Bidder's Telephone Number _____

Bidder's Fax Number _____

Residence Address of Bidder (If an individual) _____

(If Bidder is a firm, fill in the names and addresses of all partners in the following blanks)

Names of Partners	Addresses of Partners
_____	_____
_____	_____
_____	_____
_____	_____

(If Bidder is a corporation, fill in the following blanks):

Organized under the laws of the State of _____

Name and Address of President _____

Name and Address of Vice President _____

Name and Address of Secretary _____

Name and Address of Treasurer _____

(If the Bidder is a joint venture, fill in the following blanks):

Made by _____

Name of Bidder _____
(Individual firm or corporation as the case may be)

Place of Business of Bidder _____

Made by _____

Name of Bidder _____
(Individual firm or corporation as the case may be)

Place of Business of Bidder _____

Made by _____

Name of Bidder _____
(Individual firm or corporation as the case may be)

Place of Business of Bidder _____

(Each joint venture member must be listed whether individual, firm, partnership, corporation, or joint venture)

ARTICLE 2 BIDDER'S ACKNOWLEDGEMENTS

- 2.01 Bidder accepts all of the terms and conditions of the Notice to Bidders and Instructions to Bidders, including without limitation those dealing with the disposition of the Bid security. This Bid will remain subject to acceptance for 90 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of OWNER.

ARTICLE 3 BIDDER'S REPRESENTATIONS

- 3.01 In submitting this Bid, Bidder represents, as set forth in the Agreement, that:

- A. BIDDER has examined and carefully studied the Bidding Documents, the other related data identified in the Bidding Documents, and the following Addenda, receipt of all which is hereby acknowledged:

Addendum No.	Dated

- B. Bidder has visited the Site and become familiar with and is satisfied as to the general, local and Site conditions that may affect cost, progress, and performance of the Work.
- C. Bidder is familiar with and is satisfied as to all federal, state and local Laws and Regulations that may affect cost, progress, and performance of the Work.
- D. Bidder has carefully studied all reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface of subsurface structures at or contiguous to the Site (except Underground Facilities) which have been identified in the Supplementary Conditions as provided in paragraph 5.03 of the General Conditions. Bidder accepts the determination set forth in paragraph SC-5.03 and SC-5.06 of the Supplementary Conditions of the extent of the "technical data" contained in such reports and drawings upon which BIDDER is entitled to rely as provided in paragraph 5.03 and 5.06 of the General Conditions. BIDDER acknowledges that such reports and drawings are not Contract Documents and may not be complete for Bidder's purposes. BIDDER acknowledges that OWNER and ENGINEER do not assume responsibility for the accuracy or completeness of information and data shown or indicated in the Bidding Documents with respect to Underground Facilities at or contiguous to the site.
- E. Bidder has obtained and carefully studied (or assumes responsibility for having done so) all additional or supplementary examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface and Underground Facilities) at or contiguous to the Site or otherwise which may affect cost, progress, or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences and procedures of construction to be employed by Bidder, including applying the specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents to be employed by Bidder, and safety precautions and programs incident thereto.
- F. Bidder has considered the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; all additional examinations, investigations, explorations, tests, studies and data with the Bidding Documents, and any Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder; and (3) Bidder's safety precautions and programs.
- G. Bidder does not consider that any additional examinations, investigations, explorations, tests, studies or data are necessary for the determination of this Bid for performance and furnishing of the Work at the price(s) bid and within the times and in accordance with the other terms and conditions of the Bidding Documents.

- H. Bidder is aware of the general nature of work to be performed by OWNER and others at the Site that relates to the Work as indicated in the Bidding Documents.
- I. Bidder has given ENGINEER written notice of all conflicts, errors, ambiguities or discrepancies that Bidder has discovered in the Bidding Documents, and the written resolution thereof by ENGINEER is acceptable to Bidder.
- J. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance of the Work for which this Bid is submitted.
- K. Bidder is not in arrears to the OWNER, upon debt or contract; is not a defaulter, as surety or otherwise, upon any obligation to the OWNER; and has not been delinquent or unfaithful in any former contract with the OWNER.
- L. That no officer or employee or person whose salary is payable in whole or in part by the OWNER is, shall be or become interested, directly or indirectly, as a contracting party, partner, stockholder, surety or otherwise, in this Bid, or in the performance of the Contract, or in the supplies, materials, or equipment and Work or labor to which it relates, or in any portion of the profits thereof.
- M. All bids are based on named manufacturers for principal equipment items as listed in the Bid Form.
- N. That the Bidder

___ Has)
) Check applicable box
___ Has not)

previously performed Work under the President's Executive Order No. 11246 as amended.

- O. Bidder further represents that this Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation; Bidder has not directly or indirectly induced or solicited any other BIDDER to submit a false or sham Bid; Bidder has not solicited or induced any individual or entity to refrain from bidding; and Bidder has not sought by collusion to obtain for itself any advantage over any other Bidder or over OWNER.

ARTICLE 4 BIDDER'S CERTIFICATION

4.01 By submission of the Bid, each Bidder certifies, and in the case of a joint bid each party thereto certifies as to their own organization, that in connection with the Bid:

- A. The prices in the Bid have been arrived at independently, without consultation, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other Bidder or with any competitor;
- B. Unless otherwise required by law, the prices which have been quoted in the bid have not knowingly been disclosed by the Bidder, prior to opening, directly or indirectly to any other Bidder or to any competitor; and
- C. No attempt has been made or will be made by the Bidder to induce any other person or firm to submit or not to submit a Bid for the purpose of restricting competition.
- D. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this paragraph:
 - 1. "corrupt practice" means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process;
 - 2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of OWNER, (b) to establish Bid prices at artificial non-competitive levels, or (c) to deprive OWNER of the benefits of free and open competition;
 - 3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of OWNER, a purpose of which is to establish Bid prices at artificial, non-competitive levels; and
 - 4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

4.02 Each person signing the bid shall certify that:

- A. They are the person in the Bidder's organization responsible within that organization for the decision as to the prices being Bid and that they have not participated, and will not participate, in any action contrary to Paragraph 4.01 Subsection A through Subsection C above; or

- B. They are not the person in the BIDDER's organization responsible within that organization for the decision as to the prices being bid but that they have been authorized to act as agent for the persons responsible for such decision in certifying that such person have not participated, and will not participate, in any action contrary to Paragraph 4.01 Subsection A through Subsection C above, and as their agent shall so certify; that they have not participated, and will not participate, in any action contrary to Paragraph 4.01 Subsection A through Subsection C above.

ARTICLE 5 STATE LOAN CERTIFICATIONS

Each person signing the Bid certifies to the following State Loan requirements:

5.01 NON-DISCRIMINATION IN EMPLOYMENT

- A. The Bidder will comply with Title VI of the Civil Rights Act (P.L. 88-352), which provides that no person shall on the grounds of race, color, or national origin be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance.
- B. The Bidder will comply with the Clean Water Act, Section 13 (P.L. 92-500), which provides that no person shall on the basis of sex be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance.
- C. The Bidder will comply with the Age Discrimination Act (P.L. 94-135), which prohibits, with certain exceptions, discrimination on the basis of age in programs or activities receiving federal financial assistance.
- D. The Bidder will comply with Section 504 of the Rehabilitation Act (P.L. 93-112) Supplemented by Executive Orders 11914 and 11250, which provides that no otherwise qualified individual with a disability shall solely by reason of their disability, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance.
- E. The Bidder will comply with Equal Employment Opportunity Requirements, Executive Order 11246, which requires that a contractor under a federal or federally assisted construction project not discriminate in employment on the basis of race, color, religion, sex, or national origin. The Order requires contractors to take affirmative action to ensure that applicants are employed and that employees are treated during employment without regard to their race, color, religion, sex, or national origin. Further, it requires the contractor to post all mandatory equal opportunity notices and complete all required Department of Labor and Equal Opportunity Commission reporting forms. Refer to Section 00 82 40 for Notice to Labor Unions or Other Organizations of Workers on Non-Discrimination in Employment.

5.02 DEBARMENT AND SUSPENSION REQUIREMENTS

- A. The Bidder will comply with Debarment and Suspension Requirements, Executive Order 12549, which requires recipients, contractors, and subcontractors to provide certifications that they will not knowingly enter into contracts with individuals or businesses which have been debarred or suspended from federal assistance programs.

5.03 DISADVANTAGED BUSINESS ENTERPRISES

- A. The Bidder will comply with 40 CFR Part 33, Participation by Disadvantaged Business Enterprises in Procurement under Environmental Protection Agency (EPA) Financial Assistance Agreements.

5.04 DRUG FREE WORKPLACE

- A. The Bidder will comply with the Drug-Free Workplace Act, (P.L. 100-690), which requires contractors and grantees to agree that they will provide a Drug-Free Workplace. The Bidder agrees that they operate a drug free environment and that drugs are not allowed in the workplace or satellite locations as well as Waukesha Water Utility project locations in accordance with s. 66.0903 (4), 2013 stats., or s. 16.856 (2m), 2015 stats.

5.05 PREVAILING WAGES

- A. The Bidder will comply with Section 513 of the Federal Water Pollution Control Act (33 USC 1372) or Section 1450(e) of the Safe Drinking Water Act (41 USC 300j-9(e)), as applicable, which requires that all laborers and mechanics employed by contractors and subcontractors on projects funded directly by or assisted in whole or in part by and through the Federal Government pursuant to this Act shall be paid wages at rates not less than those prevailing on projects of a character similar in the locality as determined by the Secretary of Labor in accordance with subchapter IV of chapter 31 of title 40, United States code. With respect to the labor standards specified in this section, the Secretary of Labor has the authority and functions set forth in Reorganization Plan Numbered 14 of 1950 (64 Stat. 1267; 5 U.S.C. App.) and section 3145 of title 40, United States code.
- B. The US Department of Labor's website, <https://www.dol.gov/whd/govcontracts/dbra.htm> contains additional information.
- C. The Bidder will comply with the Federal Labor standards program laws, including, but not limited to the Davis Bacon Act, the Copeland Anti-Kickback Act, and the Contract Work Hours and Safety Standards Act. The Copeland Anti-Kickback Act requires that workers be paid at least once a week, and without any deductions or rebates except permissible deductions. Permissible deductions include taxes, deductions the worker authorizes in writing, and those required by court processes. The Act also requires contractors to submit weekly payroll records and Statements

of Compliance to the contracting agency. Regulations, Part 3, requires contractors and subcontractors on construction projects covered by the Davis-Bacon Act to submit each week a "statement of compliance" certifying compliance with the Davis-Bacon Act requirements. This "statement of compliance" is usually referred to as the certified payroll. This Act applies to all contracts covered by the Davis-Bacon Act. Violation of the Copeland Act is a felony and may result in termination of the contract or criminal prosecution by the U.S. Government, punishable by a fine of \$5,000, 5 years in prison, or both.

- D. The Bidder will comply with the Contract Work Hours and Safety Standards Act (CWHSSA). This Act requires that workers receive "overtime" pay at a rate of one and one-half times their regular hourly pay after they have worked 40 hours in one week on the federally funded project. The CWHSSA does not apply to contracts of \$100,000 or less, however; the Fair Labor Standards Act will apply and overtime provisions are applicable to all contracts covered by the Davis-Bacon Act. Violation of the CWHSSA makes the contractor liable for unpaid wages, liquidated damages of \$10 per employee per day of violation, and, in cases of intentional violation, a fine and imprisonment or both. Violations may also result in termination of the contract.

5.06 USE OF AMERICAN IRON AND STEEL

- A. The Bidder certifies that they have reviewed and understand the Use of American Iron and Steel requirements; that their Bids reflect their best, good faith efforts to identify domestic sources of iron and steel, where such American-made products were available on the schedule prescribed in the Bid solicitation; that all iron and steel products contained in their Bids will be and/or have been produced in the United States in a manner that complies with the Use of American Iron and Steel requirements, unless a waiver of the requirement is approved; that they will provide further verification, certification or assurance of compliance, or information necessary to support a waiver of the Use of American Iron and Steel requirements; and that they understand that any failure to comply with the Use of American Iron and Steel requirements shall permit the OWNER or State to recover as damages against the Bidder any loss, expense, or cost (including without limitation engineering or attorney's fees) incurred by the OWNER or the State resulting from any such failure.

5.07 COMPLIANCE WITH SAFETY REGULATIONS

- A. The Bidder is fully aware of and able to comply with all Local, State, and Federal Safety and other Laws, Codes, and Regulations applicable for the construction of the Project.

ARTICLE 6 BASIS OF BID

Bidder will complete the Work in accordance with the Contract Documents for the following prices:

CONTRACT ITEM			UNIT	ESTIMATED QUANTITY	UNIT PRICE	COMPUTED TOTAL PRICE FOR ITEM
1	Mobilization and Demobilization (4 Percent of Total Computed Price)		LS	1	\$	\$
2	Maintenance of Traffic		LS	1	\$	\$
3	Ductile Iron Return Flow Pipeline (Open Cut)					
	3A	30-Inch, Common Fill	LF	24,398	\$	\$
	3B	30-Inch, Select Fill	LF	213	\$	\$
	3C	30-Inch, Flowable Fill and Flowable Fill with Cement	LF	27,768	\$	\$
4	36-Inch HDPE Return Flow Pipeline (Horizontal Directional Drilling)		LF	6,247	\$	\$
5	30-Inch Ductile Iron Return Flow Pipeline in Steel Casing (Jacking and Boring), Road		LF	790	\$	\$
6	Butterfly Valves					
	6A	30-Inch, Direct Buried	EA	9	\$	\$

CONTRACT ITEM			UNIT	ESTIMATED QUANTITY	UNIT PRICE	COMPUTED TOTAL PRICE FOR ITEM
	6B	30-Inch, In Vault	EA	5	\$	\$
7	Air Valve Assemblies					
	7A	Type I	EA	11	\$	\$
	7B	Type II	EA	8	\$	\$
8	Blow-Off Assemblies		EA	14	\$	\$
9	Cathodic Protection		LS	1	\$	\$
10	Base Course		TON	14,003	\$	\$
11	Road Pavement					
	11A	Asphalt	TON	3,563	\$	\$
	11B	9-Inch Concrete	SY	697	\$	\$
	11C	Mill and Overlay	SY	4,314	\$	\$
12	Final Pavement Markings		LS	1	\$	\$
13	Curb and Gutter		LF	4,481	\$	\$
14	Pedestrian Pavement					
	14A	Asphalt	TON	2,503	\$	\$

CONTRACT ITEM			UNIT	ESTIMATED QUANTITY	UNIT PRICE	COMPUTED TOTAL PRICE FOR ITEM
	14B	Concrete Sidewalk	SY	1,441	\$	\$
15	Driveway Pavement					
	15A	Asphalt	TON	150	\$	\$
	15B	Concrete	SY	851	\$	\$
16	Erosion and Sedimentation Control		LS	1	\$	\$
17	Landscape, Wetland, and Agricultural Restoration		SY	12,761	\$	\$
18	Outfall Facilities		LS	1	\$	\$
19	Process Control System Integration		LS	1	\$	\$
20	18-Inch Sanitary Sewer (Open Cut), Select Fill		LF	3,907	\$	\$
21	Sewer Manholes		EA	20	\$	\$
22	18-Inch Sanitary Sewer Connection to Existing System		LS	1	\$	\$
23	60th Street Lift Station Bypass Pumping		LS	1	\$	\$
24	60th Street Lift Station Demolition		LS	1	\$	\$
25	Additional Quantities					
	25A	Earth Excavation	CY	1,000	\$	\$

CONTRACT ITEM			UNIT	ESTIMATED QUANTITY	UNIT PRICE	COMPUTED TOTAL PRICE FOR ITEM
	25B	Rock Excavation	CY	220	\$	\$
	25C	Select Fill	CY	220	\$	\$
	25D	Flowable Fill and Flowable Fill with Cement	CY	1,000	\$	\$
	25E	Pipe Bedding	CY	220	\$	\$
	25F	Class D Concrete Encasement	CY	1,000	\$	\$
	25G	Geotextile Fabric	SF	10,000	\$	\$
	25H	Polystyrene Insulation	SF	2,000	\$	\$
	25I	Groundwater Barriers	EA	10	\$	\$
A	Allowance Items					
	A1	Disposal of Unforeseen Impacted Materials, Soil	-	-	-	\$ 100,000
	A2	Disposal of Unforeseen Impacted Materials, Groundwater	-	-	-	\$ 50,000
	A3	Unforeseen Landscape, Wetland, and Agricultural Restoration	-	-	-	\$ 20,000

TOTAL COMPUTED PRICE FOR CONTRACT PACKAGE 6:

Amount in Words:

Amount in Figures:

BID ALTERNATE

The Bidder may propose the bid alternate listed below. The Bidder understands that after a Contract is awarded, the OWNER may select the bid alternate. The proposed prices for the bid alternate may or may not be considered in determination of the lowest bid. If awarded the Contract, the Bidder agrees to furnish and install the bid alternate for the unit price indicated. The Total Computed Price will then be adjusted accordingly.

Bid Alternate No. 1 – 18-Inch Sanitary Sewer and Manholes (Alternate Construction Option)

Provide 18-Inch Sanitary Sewer for Contract Item 19 using a construction method in lieu of open cut construction along a reach of the sewer with an estimated quantity of _____ linear feet. Furnish labor, materials, equipment, and services to provide the 18-Inch Sanitary Sewer complete in place as shown, specified, or directed.

_____ dollars and _____ cents.

(Unit Price \$ _____ per lineal foot).

If the alternate construction method results in an estimated quantity of Sewer Manholes other than that listed above, provide Sewer Manholes for Contract Item 20 with an estimated quantity of _____ manholes. Furnish labor, materials, equipment, and services to provide the Sewer Manholes complete in place as shown, specified, or directed.

_____ dollars and _____ cents.

(Unit Price \$ _____ per manhole).

Furnish a certificate with the Bid, signed and sealed by a Licensed Professional Engineer experienced in the alternate construction method and registered in the State of Wisconsin that certifies, that the Licensed Professional Engineer has evaluated and approved the CONTRACTOR's proposed construction method and has prepared complete design calculations and working drawings for the 18-Inch Sanitary Sewer and Manholes, otherwise or not specifically shown on the Drawings or specified.

1. Take responsibility for the design and adequacy of the 18-Inch Sanitary Sewer and Manhole installation details and methods otherwise or not specifically shown on the Drawings or specified.
2. Assure the practicality and feasibility of the alternate construction method based on the available soil and subsurface data. Take responsibility for obtaining additional borings along the pipe alignment necessary to design the proposed installation.

Describe in detail the proposed construction method in lieu of open cut construction along with the Bid, including the following if it differs from that shown or specified:

1. Alternate construction method.
2. Estimated linear feet of pipe installation using the proposed construction method.
3. Estimated linear feet of open cut construction.
4. Pipe information, including material, size, wall thickness, pipe joints, fittings, appurtenances, and other pertinent information. Attest the pipe is suited for the intended duty, depth of burial, and proposed construction method.
5. Grade and alignment.
6. Upstream and downstream tie-in invert elevations.
7. Number and location of manholes.
8. Other information necessary for consideration of the alternate construction method, including other proposed changes to that shown or specified otherwise.

Design the 18-Inch Sanitary Sewer adhering to the following constraints:

1. Design pipe with a minimum nominal pipeline size of 18 inches.
2. Design pipe with a minimum slope of 0.3%.
3. Do not provide inverted siphons.
4. Metallic or concrete pipe material, even with a lining system, will not be allowed.
5. Maintain pipeline alignment within the existing easement and right-of-way shown.
6. Design pipe with a free discharge into the Ryan Creek Interceptor.
7. Do not provide internal manhole drops in new or existing manholes.
8. Design manholes at intervals not exceeding 500 linear feet.
9. Adhere to established traffic control and access requirements shown, specified, or required by the authority having jurisdiction.

UNIT PRICES AND MANUFACTURERS

Unit Prices have been computed in accordance with paragraph 11.03 of the General Conditions. Bidder acknowledges that quantities are not guaranteed and final payment will be based on actual quantities determined as provided in the Contract Documents.

The Bidder affirms that the bid is based on the manufacturers below whose names are circled. The award of the Contract will be based on the equipment circled below or written and no changes to the equipment manufacturers after award will be permitted unless consent is obtained from the ENGINEER.

EQUIPMENT ITEM	BID MANUFACTURER (Circle one per specification section)
Section 33 05 52	HOBAS Pipe USA
Fiberglass Reinforced Plastic	Flowtite
Section 33 05 53	Chevron Phillips Chemical Company LP, Performance Pipe
High Density Polyethylene Pipe	JM Eagle, Inc.
Section 33 05 55	AMERICAN
Ductile Iron Pipe	McWane, Inc.
	United States Pipe and Foundry Company
Section 33 05 57	Diamond Pipe
Polyvinyl Chloride Pipe	JM Eagle, Inc.
	Northern Pipe Products, Inc.
Section 40 05 20	AMERICAN Flow Control
Gate Valves	Clow Valve Company
	Kennedy Valve Company
	Mueller Water Products, Inc.
	United States Pipe and Foundry Company
Section 40 05 20	DeZURIK, Inc.
Butterfly Valves	Kennedy Valve Company
	M&H Valve Company
	Mueller Water Products, Inc.
	Val-Matic Valve & Mfg.
Section 46 51 53	Jim Myers & Sons, Inc. (JMS)
Cascade Aerator	Smallberry Manufacturing
	Other: _____

ARTICLE 7 TIME OF COMPLETION

- 7.01 Bidder agrees that the Work will be substantially complete and will be completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions within the number of calendar days indicated in the Agreement.
- 7.02 Bidder accepts the provisions of the Agreement as to liquidated damages in the event of failure to complete the Work within the times specified.

ARTICLE 8 ATTACHMENTS TO THIS BID

- 8.01 The following documents are submitted with and made a part of this Bid:
- A. Required Bid Security in the amount of five percent (5%) of the bid in the form of a certified check, a bank cashier's check, or a Bid Bond on the attached form. The Bid Security will be retained or returned in accordance with Article 8 of the Instructions to Bidders;
 - B. List of Proposed Subcontractors;
 - C. Evidence of authority to do business in the state of Wisconsin; or a written covenant to obtain such license within the time for acceptance of Bids;
 - D. Required Certifications;
 - E. Evidence of Disadvantaged Business Enterprise (DBE) Participation; and
 - F. Evidence of Notice to Labor Unions or Other Organizations of Workers – Nondiscrimination in Employment.

ARTICLE 9 DEFINED TERMS

- 9.01 The terms used in this Bid which are defined in the General Conditions or Instructions to Bidders will have the meanings indicated in the General Conditions or Instructions to Bidders.

ARTICLE 10 BID SUBMITTAL

Accompanying this Bid is a certified check, a bank cashier's check
or a Bid Bond on the _____

(Name of Bank or Surety)
of _____
(City and State)
for the sum of _____
_____ Dollars (\$ _____),

which check shall become the property of the Waukesha Water Utility, or which bond shall become forthwith due and payable to the Waukesha Water Utility, if this Bid shall be accepted by the Waukesha Water Utility and the undersigned bidder shall fail to execute a contract with and to furnish the required Performance and Payment Bonds and insurance to the Waukesha Water Utility within 15 days after the date of a written notice by the Waukesha Water Utility to the undersigned bidder so to do.

IN WITNESS WHEREOF, this Bid is hereby signed and sealed as of the date indicated.

Bidder:
Date: _____ By: _____

Printed name of signer

Title of signer

Where Bidder is a Corporation, add:

(SEAL) ATTEST: _____
Secretary

Where Bidder is a Joint Venture, each member of the Joint Venture must sign the Bid.

The bid must be sworn to by the person signing the bid in one of the following forms:

(Form of affidavit where Bidder is an individual)

STATE OF)
) SS:
COUNTY OF)

_____, being duly sworn, deposes and says: That I am the person described in and who executed the foregoing Bid and that the several matters therein stated are in all respects true.

(Signature)

Subscribed and sworn to before me this _____
day of _____, 20____.

Notary Public _____ County

(SEAL)

My Commission expires:

(Form of affidavit where Bidder is a firm)

STATE OF)
) SS:
COUNTY OF)

_____, being duly sworn,

deposes and says: That I am a member of _____

_____ the firm described in and which executed the foregoing Bid; that I duly subscribed the name of the firm thereunto on behalf of the firm; and that the several matters therein stated are in all respects true.

(Signature)

Subscribed and sworn to before me this _____
day of _____, 20__.

Notary Public _____ County

(SEAL)

My Commission expires:

(Form of affidavit where Bidder is a corporation)

STATE OF)
) SS:
COUNTY OF)

_____ and _____
being duly sworn, depose and say: That we reside in the Cities of

_____ and
_____, respectively;

that we are the _____ and
_____, respectively;

of _____
the corporation described in and which executed the foregoing instrument; that we know the
seal of the corporation; that the seal affixed to this instrument is such corporate seal and was
so affixed by order of the Board of Directors of the corporation; that we signed our names
thereto by like order; and that we have knowledge of the several matters therein stated and
they are in all respects true.

(Signature) (Signature)

Subscribed and sworn to before me this _____
day of _____, 20____.

Notary Public _____ County

(SEAL)

My Commission expires:

(Form of Affidavit where Bidder is a Joint Venture)

STATE OF)
) SS:
COUNTY OF)

Name: _____

Firm: _____

Name: _____

Firm: _____

Name: _____

Firm: _____

and

Name: _____

Firm: _____

being duly sworn, depose and say: That we are members of the joint venture described in and which executed the foregoing Bid; that we duly subscribed the names of the firms forming the joint venture thereunto on behalf of each firm and that the several matters therein stated are in all respects true.

(Signature)

(Signature)

(Signature)

(Signature)

Subscribed and sworn to before me this _____
day of _____, 20____.

Notary Public _____ County

(SEAL)

My Commission expires:

SUBCONTRACTED WORK FORM

1. Each subcontractor performing more than 2.5% of the Work must be listed.
2. Changes to Subcontractors may not be made after this form is submitted.

Subcontractor/Work Description	Dollar Amount

END OF SECTION

ATTACH BID SECURITY IN FORM OF A
BANK CASHIER'S CHECK OR CERTIFIED
CHECK TO THIS PAGE USING A PAPER CLIP

(NO TEXT FOR THIS PAGE)

SECTION 00 43 00

BID BOND

KNOW ALL PERSONS BY THESE PRESENTS, that we, the undersigned, _____
_____ as Bidder, and
_____ as Surety, are hereby held and firmly bound unto
Waukesha Water Utility as OWNER in the penal sum of
_____ for the payment of which, well and
truly to be made, we hereby jointly and severally bind ourselves, successors and assigns.
Signed, this _____ day of _____, 20____. The Condition of the above
obligation is such that whereas the Bidder has submitted to the Waukesha Water Utility a
certain BID, attached hereto and hereby made a part hereof to enter into a contract in writing,
for _____.

NOW, THEREFORE,

- (a) If said Bid shall be rejected, or
- (b) If said BID shall be accepted and the Bidder shall execute and deliver a contract in the Form of Contract attached hereto (properly completed in accordance with said BID) and shall furnish a BOND for their performance of said contract, and for payment of all persons performing labor or furnishing materials in connection therewith, and shall in all other respects perform the agreement created by the acceptance of said BID, then this obligation shall be void, otherwise the same shall remain in force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its BOND shall be in no way impaired or affected by any extension of the time within which the OWNER may accept such bid; and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Bidder and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year first set forth above.

Bidder (L.S.)

Surety

By: _____

IMPORTANT-Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the state where the project is located.

END OF SECTION

SECTION 00 51 00

NOTICE OF AWARD

To: _____

PROJECT Description: _____.

The OWNER has considered the BID submitted by you for the above described WORK in response to its Notice to Bidders dated _____, 20__ and Instructions to Bidders.

You are hereby notified that your BID has been accepted for items in the total amount of \$_____.

You are required by the Instructions to Bidders to execute the Agreement and furnish the required CONTRACTOR'S Performance BOND, Payment BOND and certificates of insurance within fifteen (15) calendar days from the date of this Notice to you.

If you fail to execute said Agreement and to furnish said BONDS within fifteen (15) days from the date of this Notice, said OWNER will be entitled to consider all your rights arising out of the OWNER'S acceptance of your BID as abandoned and as a forfeiture of your BID BOND. The OWNER will be entitled to such other rights as may be granted by law.

You are required to return an acknowledged copy of this NOTICE OF AWARD to the OWNER.

Dated this _____ day of _____, 20__.

WAUKESHA WATER UTILITY
WAUKESHA, WISCONSIN

By _____
(Owner Name)

Title _____
(Owner Title)

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE OF AWARD is hereby acknowledged,

By _____
(Name of Contractor)

this the _____ day of _____, 20__

By _____
(Contractor Signature)

Title _____
(Contractor Title)

END OF SECTION

SECTION 00 52 00

AGREEMENT

THIS AGREEMENT is dated as of the _____ day of _____ in the year _____ by and between Waukesha Water Utility, Waukesha, Wisconsin (hereinafter called OWNER) and _____ (hereinafter call CONTRACTOR).

OWNER and CONTRACTOR, in consideration of the mutual covenants hereinafter set forth, agree as follows:

ARTICLE 1 WORK

1.01 General:

- A. The purpose of the Great Water Alliance (referred to as “Program”) is to transition the OWNER’s primary source of potable water supply from groundwater to Lake Michigan water. The Program consists of the following key components as further described in this Section:

1. New Water Supply System:

- a. A new Oklahoma Pumping Station Suction Pipeline.
- b. A new Oklahoma Pumping Station.
- c. A new Water Supply Pipeline Sections I, II, and III (also commonly referred to as the “WSPL Sections I, II, and III”).
- d. A new Booster Pumping Station, Storage, and Chemical Facilities (also commonly referred to as the “BPS”).
- e. A new Booster Pumping Station Discharge Pipeline (also commonly referred to as the “BPS Discharge Pipeline”).
- f. A new Water Supply Control Building (also commonly referred to as the “WSCB”).

2. New Return Flow System:

- a. A new Return Flow Pumping Station (also commonly referred to as the “RFPS”).
- b. A new Return Flow Pipeline (also commonly referred to as the “RFPL”), of which this Contract is a part.
- c. A new Reaeration Structure and Outfall.
- d. A new 18-Inch Gravity Sewer as part of the City of Franklin’s collection system.

1.02 The Program has been segmented into the following :

- a. Contract Package 1 – Oklahoma Pumping Station
- b. Contract Package 2 – RFPL, BPS Discharge Pipeline, WSPL Sections I, II, and III, and Oklahoma Pumping Station Suction Pipeline
- c. Contract Package 3 – Booster Pumping Station, Storage and Chemical Facilities
- d. Contract Package 4 – Return Flow Pumping Station
- e. Contract Package 5 – Return Flow Pipeline
- f. Contract Package 6 – Return Flow Pipeline, 18-Inch Sanitary Sewer, and Outfall Facilities

1.03 The Work to be done under this Contract consists of the construction of the following:

Approximately 11.27 miles of new 30-inch ductile iron pipe main (referred to as the “Return Flow Pipeline”) from the contract package interface with Contract Package 5 located on Small Road west of the intersection of Small Road and Westridge Drive in the City of New Berlin to the new Outfall Facilities at the Root River located at the southeast quadrant of the intersection of South 60th Street and West Oakwood Road in the City of Franklin. Work includes open cut construction of the new pipeline, steel casings via the jack and bore method, horizontal directional drilling, isolation valves, blow-off assemblies, air valves, fittings, cathodic protection, testing, traffic control, erosion and sedimentation control, obtaining applicable permits, traffic control, restoration of roadway, landscape, and other existing infrastructure, and all other appurtenant Work as shown and specified in the Contract Documents entitled Contract Package 6.

Approximately 3,950 linear feet of new 18-inch fiberglass reinforced plastic (FRP) pipe (referred to as the “18-Inch Sanitary Sewer”) from the connection point located on 60th Street, just south of Ryan Road in the City of Franklin to the existing sewer collection system near the 60th Street Industrial Park Lift Station located on 60th Street, about 4,000 feet south of Ryan Road in the City of Franklin. Work includes open cut construction of the new sanitary sewer (or approved alternative construction method), installation of concrete manholes, backfilling and compaction, upstream and downstream tie-in connections to the existing sewer system, bypass pumping, and abandonment of the existing lift station. Per Specification 01 29 00 Measurement and Payment, the Work for the pipeline installation portion of the contract is limited to only the Work that occurs starting 6 inches below the invert of the adjacent Return Flow Pipeline, except for the manhole installation, which is fully included in this Work item.

New Outfall Facilities at the Root River located at the southeast quadrant of the intersection of South 60th Street and West Oakwood Road in the City of Franklin and new outfall piping to the Root River. Work includes site grading, construction

of the reaeration structure, all structural and architectural work related to the building construction, electrical and controls, HVAC, sight lighting, asphalt drive paving, open cut construction of the new 30-inch discharge inverted siphon, outfall structure, including construction within the limits of the Root River, erosion and sediment control, final landscaping, obtaining applicable permits, and all other appurtenant Work as shown and specified in the Contract Documents entitled Contract Package 6.

ARTICLE 2 THE PROJECT

- 2.01 The Project for which the Work under the Contract Documents may be the whole or only a part is generally described as follows:
- A. 30-inch Return Flow Pipeline and appurtenances and connections to adjacent sections of the Return Flow Pipeline completed by others;
 - B. 18-inch Gravity Sewer, appurtenances, connections to existing sewer system, abandonment of the existing lift station;
 - C. Outfall Facilities, outfall piping to Root River, and appurtenances.

ARTICLE 3 ENGINEER AND RESIDENT PROJECT REPRESENTATIVE

- 3.01 The Project has been designed by Greeley and Hansen LLC who is hereinafter called ENGINEER. Black & Veatch Corporation is hereinafter called RESIDENT PROJECT REPRESENTATIVE. Greeley and Hansen LLC and Black & Veatch Corporation act as OWNER's representatives, assume all duties and responsibilities and have the rights and authority assigned to ENGINEER and RESIDENT PROJECT REPRESENTATIVE in the Contract Documents in connection with the completion of the Work in accordance with the Contract Documents.

ARTICLE 4 CONTRACT TIMES

- 4.01 Time of the Essence
- A. All time limits for Substantial Completion and completion and readiness for final payment as stated in the Contract Documents are of the essence of the Contract.

4.02 Days to Achieve Substantial Completion and Final Payment

- A. The Work will be substantially completed within 570 calendar days after the date when the Contract Times commence to run as provided in paragraph 4.01 of the General Conditions, and completed and ready for final payment in accordance with paragraph 15.06 of the General Conditions within 615 calendar days after the date when the Contract Times commence to run.

4.03 Liquidated Damages

- A. CONTRACTOR and OWNER recognize that time is of the essence of this Agreement and that OWNER will suffer financial loss if the Work is not completed within the times specified in paragraph 4.02 above plus any extensions thereof allowed in accordance with Article 11 of the General Conditions. They also recognize the delays, expense and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by OWNER if the Work is not completed on time. Accordingly, instead of requiring any such proof, OWNER and CONTRACTOR agree that as liquidated damages for delay (but not as a penalty) CONTRACTOR shall pay OWNER the amounts listed below.
 - 1. Three Thousand Seven Hundred dollars (\$ 3,700.00) for each calendar day that expires after the time specified in paragraph 4.02 above for Substantial Completion until the Work is substantially complete.
 - 2. After Substantial Completion, if CONTRACTOR shall neglect, refuse or fail to complete the remaining Work within the Contract Time or any proper extension thereof granted by OWNER, CONTRACTOR shall pay OWNER Three Thousand Five Hundred dollars (\$ 3,000.00) for each calendar day that expires after the time specified in paragraph 4.02 above for completion and readiness for final payment until the Work is completed and ready for final payment.
 - 3. If CONTRACTOR shall neglect, refuse or fail to complete the remaining Work by August 31, 2023, CONTRACTOR shall pay OWNER Four Thousand dollars (\$ 4,000.00) for each calendar day that expires after August 31, 2023.

ARTICLE 5 CONTRACT PRICE

5.01 OWNER shall pay CONTRACTOR for completion of the Work in accordance with the Contract Documents an amount in current funds equal to the sum of the amounts determined pursuant to paragraphs 5.01A:

- A. In accordance with Article 5 of Section 00 41 00, for all Work, computed price for the Contract Package 6 of:

(In words)

(In figures)

All specific cash allowances are included in the above price and have been computed in accordance with Article 5 of Section 00 41 00;

- B. For all Work, at the prices stated in Contractor's Bid, attached hereto as an exhibit.

ARTICLE 6 PAYMENT PROCEDURES

6.01 Submittal and Processing of Payments

- A. CONTRACTOR shall submit Applications for Payment in accordance with Article 15 of the General Conditions. Applications for Payment will be processed by ENGINEER as provided in the General Conditions.

6.02 Progress Payments; Retainage

- A. OWNER shall make progress payments on account of the Contract Price on the basis of CONTRACTOR's Applications for Payment, on or about the first day of each month during performance of the Work as provided in paragraphs 6.02.A.1 and 6.02.A.2. below. All such payments will be measured by the schedule of values established in paragraph 2.05.A of the General Conditions (and in the case of Unit Price Work based on the number of units completed) or, in the event there is no schedule of values, as provided in the General Requirements:

1. Prior to Substantial Completion, OWNER will retain from progress payments, until payment is due under the terms and conditions governing final payments, amounts as follows:

Retention of 10 percent of payments authorized until the Work is 50 percent completed.

- a. If the Work has been 50 percent completed as determined by RESIDENT PROJECT REPRESENTATIVE, and if the character and progress of the Work have been satisfactory to OWNER and ENGINEER, then as long as the character and progress of the Work remain satisfactory to OWNER and ENGINEER, the OWNER may suspend additional retainage withholding on the current Work, including accepted Work to date, and remaining estimates.
- b. Retainage will be 10 percent of the cost of materials and equipment that are not incorporated in the Work but are delivered, suitably stored, and accompanied by documentation satisfactory to OWNER as provided in Paragraph 15.01.B.1 of the General Conditions. Stored materials and

equipment retainage will be released when the materials and equipment are incorporated in the Work.

2. Upon Substantial Completion, OWNER may release a portion of the retainage to CONTRACTOR, retaining at all times an amount sufficient to cover the cost of the Work remaining to be completed.

6.03 Final Payment

- A. Upon final completion and acceptance of the Work in accordance with paragraph 15.06 of the General Conditions, OWNER shall pay the remainder of the Contract Price as recommended by ENGINEER as provided in said paragraph 15.06.

ARTICLE 7 CONTRACTOR'S REPRESENTATIONS

7.01 In order to induce OWNER to enter into this Agreement CONTRACTOR makes the following representations:

- A. CONTRACTOR has examined and carefully studied the Contract Documents and the other related data identified in the Bidding Documents.
- B. CONTRACTOR has visited the Site and become familiar with and is satisfied as to the general, local and Site conditions that may affect cost, progress, and performance of the Work.
- C. CONTRACTOR is familiar with and is satisfied as to all federal, state and local Laws and Regulations that may affect cost, progress, and performance of the Work.
- D. CONTRACTOR has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) which have been identified in the Supplementary Conditions as provided in paragraph 5.03 of the General Conditions and (2) reports and drawings of a Hazardous Environmental Condition, if any, at the Site which has been identified in the Supplementary Conditions as provided in paragraph 5.06 of the General Conditions. CONTRACTOR accepts the determination set forth in paragraph SC-5.03 of the Supplementary Conditions as to the extent of the "technical data" contained in such reports and drawings upon which CONTRACTOR is entitled to rely as provided in paragraph 5.03B of the General Conditions. CONTRACTOR acknowledges that such reports and drawings are not Contract Documents and may not be complete for CONTRACTOR's purposes. CONTRACTOR acknowledges that OWNER and ENGINEER do not assume responsibility for the accuracy or completeness of information and data shown or

indicated in the Contract Documents with respect to Underground Facilities at or contiguous to the Site.

- E. CONTRACTOR has obtained and carefully studied (or assumes responsibility for having done so) all additional or supplementary examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface and Underground Facilities) at or contiguous to the Site which may affect cost, progress, or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences and procedures of construction to be employed by CONTRACTOR, including applying the specific means, methods, techniques, sequences and procedures of construction, if any, expressly required by the Contract Documents to be employed by CONTRACTOR, and safety precautions and programs incident thereto.
- F. CONTRACTOR has considered the information known to CONTRACTOR itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and any Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder; and (3) CONTRACTOR's safety precautions and programs.
- G. CONTRACTOR does not consider that any further examinations, investigations, explorations, tests, studies or data are necessary for the performance of the Work at the Contract Price, within the Contract Times and in accordance with the other terms and conditions of the Contract Documents.
- H. CONTRACTOR is aware of the general nature of work to be performed by OWNER and others at the Site that relates to the Work as indicated in the Contract Documents.
- I. CONTRACTOR has correlated the information known to CONTRACTOR, information and observations obtained from visits to the Site, reports and drawings identified in the Contract Documents and all additional examinations, investigations, explorations, tests, studies and data with the Contract Documents.
- J. CONTRACTOR has given ENGINEER written notice of all conflicts, errors, ambiguities or discrepancies that CONTRACTOR has discovered in the Contract Documents and the written resolution thereof by ENGINEER is acceptable to CONTRACTOR.
- K. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

ARTICLE 8 CONTRACT DOCUMENTS

8.01 Contents

- A. The Contract Documents consist of the following:
1. This Agreement (Section 00 52 00)
 2. Notice of Award (Section 00 51 00)
 3. Performance Bond (Section 00 61 13)
 4. Payment Bond (Section 00 61 16)
 5. General Conditions (Section 00 72 00)
 6. Supplementary Conditions (Section 00 73 00)
 7. Specifications bearing the title Contract Package 6 – Return Flow Pipeline, 18-Inch Sanitary Sewer, and Outfall Facilities Volume I of II and Volume II of II
 8. Set of Contract Drawings bearing the title – Return Flow Pipeline, 18-Inch Sanitary Sewer, and Outfall Facilities
 9. Addenda (numbers _____ to _____, inclusive)
 10. Exhibits to this Agreement (enumerated as follows):
 - a. Notice to Proceed (Section 00 55 00)
 - b. CONTRACTOR's Bid (Section 00 41 00)
 - c. Documentation submitted by CONTRACTOR prior to Notice of Award
 - (1) Certification of Debarment (Section 00 32 00)
 - (2) Certification of Non-Segregated Facilities (Section 00 82 30)
 - (3) Notice to Labor Unions or Other Organizations of Workers Nondiscrimination in Employment (Section 00 82 40)
 - (4) Disadvantaged Business Enterprise (DBE) Participation Forms (Section 00 82 50)
 11. The following which may be delivered or issued on or after the Effective Date of the Agreement and are not attached hereto:
 - a. Written Amendments
 - b. Work Change Directives
 - c. Change Order(s)
- B. The documents listed in paragraphs 8.01.A are attached to this Agreement (except as expressly noted otherwise above).

- C. There are no Contract Documents other than those listed above in this Article 8.
- D. The Contract Documents may only be amended, modified or supplemented as provided in Article 11 of the General Conditions.

ARTICLE 9 MISCELLANEOUS

9.01 Terms

- A. Terms used in this Agreement will have the meanings indicated in the General Conditions.

9.02 Assignment of Contract

- A. No assignment by a party hereto of any rights under or interests in the Contract will be binding on another party hereto without the written consent of the party sought to be bound; and, specifically but without limitation, moneys that may become due and moneys that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

9.03 Successors and Assigns

- A. OWNER and CONTRACTOR each binds itself, its partners, successors, assigns and legal representatives to the other party hereto, its partners, successors, assigns and legal representatives in respect to all covenants, agreements and obligations contained in the Contract Documents.

9.04 Severability

- A. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon OWNER and CONTRACTOR, who agree that the Contract Documents shall be reformed to replace such stricken provisions or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

IN WITNESS WHEREOF, OWNER and CONTRACTOR have signed this Agreement in duplicate. One counterpart each has been delivered to OWNER, and CONTRACTOR. All portions of the Contract Documents have been signed, or identified by OWNER and CONTRACTOR or on their behalf.

This Agreement will be effective on the date first above written.

CONTRACTOR:

By: _____

Title: _____

Attest: _____

Title: _____

Address for Giving Notices:

License No. _____

(Where applicable)

Designated Representative:

Name: _____

Title: _____

Address: _____

Phone: _____

Facsimile: _____

OWNER:

Waukesha Water Utility, Waukesha,

Wisconsin _____

By: Joseph J. Piatt

Title: Commission President

By: G. J. Zinda

Title: Commission Secretary

By: Daniel S. Duchniak, PE

Title: General Manager

To certify that Water Utility funds are available for payment of obligations that are attributable to the Water Utility's portion of the work:

By: Joseph Ciarro, CPA

Title: Administrative Services Manager

Provisions have been made to pay for the liability that will accrue under this Contract.

By: Richard Abbott

Title: City Finance Director

Date: _____

Approve as to form and execution:

By: Brian Running

Title: City Attorney

Date: _____

Attest: _____

Title: _____

Address for Giving Notices:

Designated Representative:

Name: _____

Title: _____

Address: _____

Phone: _____

Facsimile: _____

END OF SECTION

SECTION 00 55 00

NOTICE TO PROCEED

To: _____ Date: _____

Project: _____

You are hereby notified to commence Work in accordance with the Agreement dated _____, 20____, on or before _____, 20____, and you are to have the Work Substantially Complete within 570 calendar days, and Finally Complete and ready for final payment in accordance with Paragraph 15.06 of the General Conditions within 615 calendar days.

The date of completion of all Work is therefore _____, 20____.

Note: For the project to be considered Substantially Complete, all of the new pipeline and appurtenances must be tested, completely operational, and accepted by OWNER.

WAUKESHA WATER UTILITY
WAUKESHA, WISCONSIN

By _____

Title _____

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE TO PROCEED
is hereby acknowledged by _____

this the _____ day of

_____, 20____

By _____

Title _____

(NO TEXT ON THIS PAGE)

SECTION 00 61 13

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS: that

(Name of Corporation)

(Address of Corporation)

a _____ hereinafter called Principal and
(Corporation, Partnership, Firm, or Individual)

(Name of Surety)

(Address of Surety)

hereinafter called Surety, are held and firmly bound unto Waukesha Water Utility, its office located at 115 Delafield Street, Waukesha, Wisconsin, 53187

hereinafter called OWNER, in the penal sum of _____

_____ Dollars, \$(_____) in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a certain contract with the OWNER, dated the _____ day of _____ 20__, a copy of which is hereto attached and made a part hereof for the construction of Contract Package 6.

NOW, THEREFORE, if the Principal shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions, and agreements of said contract during the original term thereof, and any extensions thereof which may be granted by the OWNER, with or without notice to the Surety and during the one year guaranty period, and if they shall satisfy all claims and demands incurred under such contract, and shall fully indemnify and save harmless the OWNER from all costs and damages which it may suffer by reason of failure to do so, and shall reimburse and repay the OWNER all outlay and expense which the OWNER may incur in making good any default, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said Surety, for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to Work to be performed thereunder or the Contract Documents accompanying the same shall in any wise affect its obligation on this Bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the Work or to the Contract Documents.

PROVIDED, FURTHER, that no final settlement between the OWNER and the Contractor shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in _____ counterparts, each one of which shall be deemed an original, this the _____ day of _____ 20__.

ATTEST:

(SEAL) By: _____

ATTEST:

(SEAL)

By: _____

NOTE: Date of BOND must not be prior to date of Contract.
If CONTRACTOR is Partnership, all partners should execute BOND.

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the state where the PROJECT is located.

SECTION 00 61 16

PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS: that

(Name of Contractor)

(Address of Contractor)

a _____ hereinafter called Principal and
(Corporation, Partnership, or Individual)

(Name of Surety)

(Address of Surety)

hereinafter called Surety, are held and firmly bound unto Waukesha Water Utility, its office located at 115 Delafield Street, Waukesha, Wisconsin 53187

hereinafter called OWNER, in the penal sum of _____

_____ Dollars, \$(_____) in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a certain contract with the OWNER, dated the _____ day of _____ 20__, a copy of which is hereto attached and made a part hereof for the construction of Contract Package 6.

NOW, THEREFORE, if the Principal shall promptly make payment to all persons firms, subcontractors, and corporations furnishing materials for or performing labor in the prosecution of the Work provided for in such contract, and any authorized extension or modification thereof, including all amounts due for materials, lubricant, oil, gasoline, coal and coke, repairs on machinery, equipment and tools, consumed or used in connection with the construction of such Work, and all insurance premiums on said Work, and for all labor, performed in such Work whether by subcontractors or otherwise, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said Surety, for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to

Work to be performed thereunder the Contract Documents accompanying the same shall in any wise affect its obligation on this Bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the Work or to the Contract Documents.

PROVIDED, FURTHER, that no final settlement between the OWNER and the contractor shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in _____ counterparts, each one of which shall be deemed an original, this the _____ day of _____ 20__.

ATTEST:

(SEAL)

By: _____

ATTEST:

(SEAL)

By: _____

NOTE: Date of BOND must not be prior to date of Contract.
If CONTRACTOR is Partnership, all partners should execute BOND.

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the state where the PROJECT is located.

This document has important legal consequences; consultation with an attorney is encouraged with respect to its use or modification. This document should be adapted to the particular circumstances of the contemplated Project and the controlling Laws and Regulations.

SECTION 00 72 00 STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

Prepared by



Issued and Published Jointly by



These General Conditions have been prepared for use with the Agreement Between Owner and Contractor for Construction Contract (EJCDC® C-520, Stipulated Sum, or C-525, Cost-Plus, 2013 Editions). Their provisions are interrelated and a change in one may necessitate a change in the other.

To prepare supplementary conditions that are coordinated with the General Conditions, use EJCDC's Guide to the Preparation of Supplementary Conditions (EJCDC® C-800, 2013 Edition). The full EJCDC Construction series of documents is discussed in the Commentary on the 2013 EJCDC Construction Documents (EJCDC® C-001, 2013 Edition).

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STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

TABLE OF CONTENTS

	Page
Article 1 – Definitions and Terminology	1
1.01 Defined Terms	1
1.02 Terminology	5
Article 2 – Preliminary Matters	6
2.01 Delivery of Bonds and Evidence of Insurance	6
2.02 Copies of Documents	7
2.03 Before Starting Construction	7
2.04 Preconstruction Conference; Designation of Authorized Representatives	7
2.05 Initial Acceptance of Schedules	7
2.06 Electronic Transmittals	8
Article 3 – Documents: Intent, Requirements, Reuse	8
3.01 Intent	8
3.02 Reference Standards	8
3.03 Reporting and Resolving Discrepancies	9
3.04 Requirements of the Contract Documents	10
3.05 Reuse of Documents	10
Article 4 – Commencement and Progress of the Work	11
4.01 Commencement of Contract Times; Notice to Proceed	11
4.02 Starting the Work	11
4.03 Reference Points	11
4.04 Progress Schedule	11
4.05 Delays in Contractor’s Progress	11
Article 5 – Availability of Lands; Subsurface and Physical Conditions; Hazardous Environmental Conditions	12
5.01 Availability of Lands	12
5.02 Use of Site and Other Areas	13
5.03 Subsurface and Physical Conditions	14
5.04 Differing Subsurface or Physical Conditions	14
5.05 Underground Facilities	16

5.06	Hazardous Environmental Conditions at Site	17
Article 6 – Bonds and Insurance		20
6.01	Performance, Payment, and Other Bonds.....	20
6.02	Insurance—General Provisions	20
6.03	Contractor’s Insurance	22
6.04	Owner’s Liability Insurance	24
6.05	Property Insurance	24
6.06	Waiver of Rights	26
6.07	Receipt and Application of Property Insurance Proceeds	27
Article 7 – Contractor’s Responsibilities		28
7.01	Supervision and Superintendence.....	28
7.02	Labor; Working Hours.....	28
7.03	Services, Materials, and Equipment	28
7.04	“Or Equals”	29
7.05	Substitutes	30
7.06	Concerning Subcontractors, Suppliers, and Others.....	31
7.07	Patent Fees and Royalties.....	33
7.08	Permits.....	33
7.09	Taxes	34
7.10	Laws and Regulations	34
7.11	Record Documents	34
7.12	Safety and Protection	35
7.13	Safety Representative.....	36
7.14	Hazard Communication Programs.....	36
7.15	Emergencies	36
7.16	Shop Drawings, Samples, and Other Submittals	36
7.17	Contractor’s General Warranty and Guarantee	38
7.18	Indemnification.....	39
7.19	Delegation of Professional Design Services.....	40
Article 8 – Other Work at the Site		41
8.01	Other Work	41
8.02	Coordination	41
8.03	Legal Relationships	42

Article 9 – Owner’s Responsibilities.....	43
9.01 Communications to Contractor	43
9.02 Replacement of Engineer	43
9.03 Furnish Data.....	43
9.04 Pay When Due	43
9.05 Lands and Easements; Reports, Tests, and Drawings	43
9.06 Insurance	43
9.07 Change Orders	43
9.08 Inspections, Tests, and Approvals	43
9.09 Limitations on Owner’s Responsibilities.....	43
9.10 Undisclosed Hazardous Environmental Condition	44
9.11 Evidence of Financial Arrangements	44
9.12 Safety Programs.....	44
Article 10 – Engineer’s Status During Construction.....	44
10.01 Owner’s Representative	44
10.02 Visits to Site	44
10.03 Project Representative	45
10.04 Rejecting Defective Work	45
10.05 Shop Drawings, Change Orders and Payments	45
10.06 Determinations for Unit Price Work.....	45
10.07 Decisions on Requirements of Contract Documents and Acceptability of Work.....	45
10.08 Limitations on Engineer’s Authority and Responsibilities	45
10.09 Compliance with Safety Program	46
Article 11 – Amending the Contract Documents; Changes in the Work	46
11.01 Amending and Supplementing Contract Documents.....	46
11.02 Owner-Authorized Changes in the Work.....	47
11.03 Unauthorized Changes in the Work	47
11.04 Change of Contract Price	47
11.05 Change of Contract Times	49
11.06 Change Proposals	49
11.07 Execution of Change Orders	50
11.08 Notification to Surety	50
Article 12 – Claims.....	50

12.01	Claims	50
Article 13 – Cost of the Work; Allowances; Unit Price Work.....		52
13.01	Cost of the Work.....	52
13.02	Allowances.....	54
13.03	Unit Price Work	55
Article 14 – Tests and Inspections; Correction, Removal or Acceptance of Defective Work.....		55
14.01	Access to Work	55
14.02	Tests, Inspections, and Approvals	56
14.03	Defective Work	57
14.04	Acceptance of Defective Work	57
14.05	Uncovering Work.....	57
14.06	Owner May Stop the Work.....	58
14.07	Owner May Correct Defective Work	58
Article 15 – Payments to Contractor; Set-Offs; Completion; Correction Period		59
15.01	Progress Payments	59
15.02	Contractor’s Warranty of Title.....	62
15.03	Substantial Completion	62
15.04	Partial Use or Occupancy.....	63
15.05	Final Inspection.....	64
15.06	Final Payment	64
15.07	Waiver of Claims.....	65
15.08	Correction Period.....	66
Article 16 – Suspension of Work and Termination		66
16.01	Owner May Suspend Work.....	66
16.02	Owner May Terminate for Cause	67
16.03	Owner May Terminate For Convenience	68
16.04	Contractor May Stop Work or Terminate.....	68
Article 17 – Final Resolution of Disputes		69
17.01	Methods and Procedures	69
Article 18 – Miscellaneous		69
18.01	Giving Notice	69
18.02	Computation of Times	69
18.03	Cumulative Remedies	69

18.04	Limitation of Damages.....	70
18.05	No Waiver	70
18.06	Survival of Obligations	70
18.07	Controlling Law	70
18.08	Headings	70

ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

- A. Wherever used in the Bidding Requirements or Contract Documents, a term printed with initial capital letters, including the term's singular and plural forms, will have the meaning indicated in the definitions below. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.
1. *Addenda*—Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.
 2. *Agreement*—The written instrument, executed by Owner and Contractor, that sets forth the Contract Price and Contract Times, identifies the parties and the Engineer, and designates the specific items that are Contract Documents.
 3. *Application for Payment*—The form acceptable to Engineer which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
 4. *Bid*—The offer of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
 5. *Bidder*—An individual or entity that submits a Bid to Owner.
 6. *Bidding Documents*—The Bidding Requirements, the proposed Contract Documents, and all Addenda.
 7. *Bidding Requirements*—The advertisement or invitation to bid, Instructions to Bidders, Bid Bond or other Bid security, if any, the Bid Form, and the Bid with any attachments.
 8. *Change Order*—A document which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, or other revision to the Contract, issued on or after the Effective Date of the Contract.
 9. *Change Proposal*—A written request by Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment in Contract Price or Contract Times, or both; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; challenging a set-off against payments due; or seeking other relief with respect to the terms of the Contract.
 10. *Claim*—(a) A demand or assertion by Owner directly to Contractor, duly submitted in compliance with the procedural requirements set forth herein: seeking an adjustment of Contract Price or Contract Times, or both; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; contesting Engineer's decision regarding a Change Proposal; seeking resolution of a contractual issue that Engineer has declined to address; or seeking other relief with respect to the

terms of the Contract; or (b) a demand or assertion by Contractor directly to Owner, duly submitted in compliance with the procedural requirements set forth herein, contesting Engineer's decision regarding a Change Proposal; or seeking resolution of a contractual issue that Engineer has declined to address. A demand for money or services by a third party is not a Claim.

11. *Constituent of Concern*—Asbestos, petroleum, radioactive materials, polychlorinated biphenyls (PCBs), hazardous waste, and any substance, product, waste, or other material of any nature whatsoever that is or becomes listed, regulated, or addressed pursuant to (a) the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. §§9601 et seq. ("CERCLA"); (b) the Hazardous Materials Transportation Act, 49 U.S.C. §§5501 et seq.; (c) the Resource Conservation and Recovery Act, 42 U.S.C. §§6901 et seq. ("RCRA"); (d) the Toxic Substances Control Act, 15 U.S.C. §§2601 et seq.; (e) the Clean Water Act, 33 U.S.C. §§1251 et seq.; (f) the Clean Air Act, 42 U.S.C. §§7401 et seq.; or (g) any other federal, state, or local statute, law, rule, regulation, ordinance, resolution, code, order, or decree regulating, relating to, or imposing liability or standards of conduct concerning, any hazardous, toxic, or dangerous waste, substance, or material.
12. *Contract*—The entire and integrated written contract between the Owner and Contractor concerning the Work.
13. *Contract Documents*—Those items so designated in the Agreement, and which together comprise the Contract.
14. *Contract Price*—The money that Owner has agreed to pay Contractor for completion of the Work in accordance with the Contract Documents.
15. *Contract Times*—The number of days or the dates by which Contractor shall: (a) achieve Milestones, if any; (b) achieve Substantial Completion; and (c) complete the Work.
16. *Contractor*—The individual or entity with which Owner has contracted for performance of the Work.
17. *Cost of the Work*—See Paragraph 13.01 for definition.
18. *Drawings*—The part of the Contract that graphically shows the scope, extent, and character of the Work to be performed by Contractor.
19. *Effective Date of the Contract*—The date, indicated in the Agreement, on which the Contract becomes effective.
20. *Engineer*—The individual or entity named as such in the Agreement.
21. *Field Order*—A written order issued by Engineer which requires minor changes in the Work but does not change the Contract Price or the Contract Times.
22. *Hazardous Environmental Condition*—The presence at the Site of Constituents of Concern in such quantities or circumstances that may present a danger to persons or property exposed thereto. The presence at the Site of materials that are necessary for the execution of the Work, or that are to be incorporated in the Work, and that are controlled and contained pursuant to industry practices, Laws

and Regulations, and the requirements of the Contract, does not establish a Hazardous Environmental Condition.

23. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, statutes, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.
24. *Liens*—Charges, security interests, or encumbrances upon Contract-related funds, real property, or personal property.
25. *Milestone*—A principal event in the performance of the Work that the Contract requires Contractor to achieve by an intermediate completion date or by a time prior to Substantial Completion of all the Work.
26. *Notice of Award*—The written notice by Owner to a Bidder of Owner's acceptance of the Bid.
27. *Notice to Proceed*—A written notice by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work.
28. *Owner*—The individual or entity with which Contractor has contracted regarding the Work, and which has agreed to pay Contractor for the performance of the Work, pursuant to the terms of the Contract.
29. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor's plan to accomplish the Work within the Contract Times.
30. *Project*—The total undertaking to be accomplished for Owner by engineers, contractors, and others, including planning, study, design, construction, testing, commissioning, and start-up, and of which the Work to be performed under the Contract Documents is a part.
31. *Project Manual*—The written documents prepared for, or made available for, procuring and constructing the Work, including but not limited to the Bidding Documents or other construction procurement documents, geotechnical and existing conditions information, the Agreement, bond forms, General Conditions, Supplementary Conditions, and Specifications. The contents of the Project Manual may be bound in one or more volumes.
32. *Resident Project Representative*—The authorized representative of Engineer assigned to assist Engineer at the Site. As used herein, the term Resident Project Representative or "RPR" includes any assistants or field staff of Resident Project Representative.
33. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and that establish the standards by which such portion of the Work will be judged.
34. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements for Engineer's review of the submittals and the performance of related construction activities.

35. *Schedule of Values*—A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.
36. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information that are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work. Shop Drawings, whether approved or not, are not Drawings and are not Contract Documents.
37. *Site*—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements, and such other lands furnished by Owner which are designated for the use of Contractor.
38. *Specifications*—The part of the Contract that consists of written requirements for materials, equipment, systems, standards, and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable to the Work.
39. *Subcontractor*—An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work.
40. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion thereof.
41. *Successful Bidder*—The Bidder whose Bid the Owner accepts, and to which the Owner makes an award of contract, subject to stated conditions.
42. *Supplementary Conditions*—The part of the Contract that amends or supplements these General Conditions.
43. *Supplier*—A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or a Subcontractor.
44. *Technical Data*—Those items expressly identified as Technical Data in the Supplementary Conditions, with respect to either (a) subsurface conditions at the Site, or physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities) or (b) Hazardous Environmental Conditions at the Site. If no such express identifications of Technical Data have been made with respect to conditions at the Site, then the data contained in boring logs, recorded measurements of subsurface water levels, laboratory test results, and other factual, objective information regarding conditions at the Site that are set forth in any geotechnical or environmental report prepared for the Project and made available to Contractor are hereby defined as Technical Data with respect to conditions at the Site under Paragraphs 5.03, 5.04, and 5.06.

- 45. *Underground Facilities*—All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including but not limited to those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, fiber optic transmissions, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.
- 46. *Unit Price Work*—Work to be paid for on the basis of unit prices.
- 47. *Work*—The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction; furnishing, installing, and incorporating all materials and equipment into such construction; and may include related services such as testing, start-up, and commissioning, all as required by the Contract Documents.
- 48. *Work Change Directive*—A written directive to Contractor issued on or after the Effective Date of the Contract, signed by Owner and recommended by Engineer, ordering an addition, deletion, or revision in the Work.

1.02 Terminology

- A. The words and terms discussed in the following paragraphs are not defined but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.
- B. *Intent of Certain Terms or Adjectives:*
 - 1. The Contract Documents include the terms “as allowed,” “as approved,” “as ordered,” “as directed” or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives “reasonable,” “suitable,” “acceptable,” “proper,” “satisfactory,” or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the information in the Contract Documents and with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility contrary to the provisions of Article 10 or any other provision of the Contract Documents.
- C. *Day:*
 - 1. The word “day” means a calendar day of 24 hours measured from midnight to the next midnight.
- D. *Defective:*
 - 1. The word “defective,” when modifying the word “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that it:
 - a. does not conform to the Contract Documents; or

- b. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or
 - c. has been damaged prior to Engineer's recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 15.03 or 15.04).
- E. *Furnish, Install, Perform, Provide:*
 - 1. The word "furnish," when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.
 - 2. The word "install," when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.
 - 3. The words "perform" or "provide," when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.
 - 4. If the Contract Documents establish an obligation of Contractor with respect to specific services, materials, or equipment, but do not expressly use any of the four words "furnish," "install," "perform," or "provide," then Contractor shall furnish and install said services, materials, or equipment complete and ready for intended use.
- F. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2 – PRELIMINARY MATTERS

2.01 *Delivery of Bonds and Evidence of Insurance*

- A. *Bonds:* When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner such bonds as Contractor may be required to furnish.
- B. *Evidence of Contractor's Insurance:* When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner, with copies to each named insured and additional insured (as identified in the Supplementary Conditions or elsewhere in the Contract), the certificates and other evidence of insurance required to be provided by Contractor in accordance with Article 6.
- C. *Evidence of Owner's Insurance:* After receipt of the executed counterparts of the Agreement and all required bonds and insurance documentation, Owner shall promptly deliver to Contractor, with copies to each named insured and additional insured (as identified in the Supplementary Conditions or otherwise), the certificates and other evidence of insurance required to be provided by Owner under Article 6.

2.02 *Copies of Documents*

- A. Owner shall furnish to Contractor four printed copies of the Contract (including one fully executed counterpart of the Agreement), and one copy in electronic portable document format (PDF). Additional printed copies will be furnished upon request at the cost of reproduction.
- B. Owner shall maintain and safeguard at least one original printed record version of the Contract, including Drawings and Specifications signed and sealed by Engineer and other design professionals. Owner shall make such original printed record version of the Contract available to Contractor for review. Owner may delegate the responsibilities under this provision to Engineer.

2.03 *Before Starting Construction*

- A. *Preliminary Schedules:* Within 10 days after the Effective Date of the Contract (or as otherwise specifically required by the Contract Documents), Contractor shall submit to Engineer for timely review:
 - 1. a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract;
 - 2. a preliminary Schedule of Submittals; and
 - 3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.04 *Preconstruction Conference; Designation of Authorized Representatives*

- A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in Paragraph 2.03.A, procedures for handling Shop Drawings, Samples, and other submittals, processing Applications for Payment, electronic or digital transmittals, and maintaining required records.
- B. At this conference Owner and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit and receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

2.05 *Initial Acceptance of Schedules*

- A. At least 10 days before submission of the first Application for Payment a conference, attended by Contractor, Engineer, and others as appropriate, will be held to review for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.03.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to Contractor until acceptable schedules are submitted to Engineer.

1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work, nor interfere with or relieve Contractor from Contractor's full responsibility therefor.
2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.
3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to the component parts of the Work.

2.06 *Electronic Transmittals*

- A. Except as otherwise stated elsewhere in the Contract, the Owner, Engineer, and Contractor may transmit, and shall accept, Project-related correspondence, text, data, documents, drawings, information, and graphics, including but not limited to Shop Drawings and other submittals, in electronic media or digital format, either directly, or through access to a secure Project website.
- B. If the Contract does not establish protocols for electronic or digital transmittals, then Owner, Engineer, and Contractor shall jointly develop such protocols.
- C. When transmitting items in electronic media or digital format, the transmitting party makes no representations as to long term compatibility, usability, or readability of the items resulting from the recipient's use of software application packages, operating systems, or computer hardware differing from those used in the drafting or transmittal of the items, or from those established in applicable transmittal protocols.

ARTICLE 3 – DOCUMENTS: INTENT, REQUIREMENTS, REUSE

3.01 *Intent*

- A. The Contract Documents are complementary; what is required by one is as binding as if required by all.
- B. It is the intent of the Contract Documents to describe a functionally complete project (or part thereof) to be constructed in accordance with the Contract Documents.
- C. Unless otherwise stated in the Contract Documents, if there is a discrepancy between the electronic or digital versions of the Contract Documents (including any printed copies derived from such electronic or digital versions) and the printed record version, the printed record version shall govern.
- D. The Contract supersedes prior negotiations, representations, and agreements, whether written or oral.
- E. Engineer will issue clarifications and interpretations of the Contract Documents as provided herein.

3.02 *Reference Standards*

- A. Standards Specifications, Codes, Laws and Regulations

1. Reference in the Contract Documents to standard specifications, manuals, reference standards, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard specification, manual, reference standard, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Contract if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.
2. No provision of any such standard specification, manual, reference standard, or code, or any instruction of a Supplier, shall be effective to change the duties or responsibilities of Owner, Contractor, or Engineer, or any of their subcontractors, consultants, agents, or employees, from those set forth in the part of the Contract Documents prepared by or for Engineer. No such provision or instruction shall be effective to assign to Owner, Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the part of the Contract Documents prepared by or for Engineer.

3.03 *Reporting and Resolving Discrepancies*

A. *Reporting Discrepancies:*

1. *Contractor's Verification of Figures and Field Measurements:* Before undertaking each part of the Work, Contractor shall carefully study the Contract Documents, and check and verify pertinent figures and dimensions therein, particularly with respect to applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy that Contractor discovers, or has actual knowledge of, and shall not proceed with any Work affected thereby until the conflict, error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract Documents issued pursuant to Paragraph 11.01.
2. *Contractor's Review of Contract Documents:* If, before or during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation, (b) actual field conditions, (c) any standard specification, manual, reference standard, or code, or (d) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 7.15) until the conflict, error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract Documents issued pursuant to Paragraph 11.01.
3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof.

B. *Resolving Discrepancies:*

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the part of the Contract Documents prepared by or for Engineer shall

take precedence in resolving any conflict, error, ambiguity, or discrepancy between such provisions of the Contract Documents and:

- a. the provisions of any standard specification, manual, reference standard, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference as a Contract Document); or
- b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 *Requirements of the Contract Documents*

- A. During the performance of the Work and until final payment, Contractor and Owner shall submit to the Engineer all matters in question concerning the requirements of the Contract Documents (sometimes referred to as requests for information or interpretation—RFIs), or relating to the acceptability of the Work under the Contract Documents, as soon as possible after such matters arise. Engineer will be the initial interpreter of the requirements of the Contract Documents, and judge of the acceptability of the Work thereunder.
- B. Engineer will, with reasonable promptness, render a written clarification, interpretation, or decision on the issue submitted, or initiate an amendment or supplement to the Contract Documents. Engineer's written clarification, interpretation, or decision will be final and binding on Contractor, unless it appeals by submitting a Change Proposal, and on Owner, unless it appeals by filing a Claim.
- C. If a submitted matter in question concerns terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work under the Contract Documents, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, then Engineer will promptly give written notice to Owner and Contractor that Engineer is unable to provide a decision or interpretation. If Owner and Contractor are unable to agree on resolution of such a matter in question, either party may pursue resolution as provided in Article 12.

3.05 *Reuse of Documents*

- A. Contractor and its Subcontractors and Suppliers shall not:
 1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or its consultants, including electronic media editions, or reuse any such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer; or
 2. have or acquire any title or ownership rights in any other Contract Documents, reuse any such Contract Documents for any purpose without Owner's express written consent, or violate any copyrights pertaining to such Contract Documents.
- B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein shall preclude Contractor from retaining copies of the Contract Documents for record purposes.

ARTICLE 4 – COMMENCEMENT AND PROGRESS OF THE WORK

4.01 *Commencement of Contract Times; Notice to Proceed*

- A. The Contract Times will commence to run on the thirtieth day after the Effective Date of the Contract or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Contract. In no event will the Contract Times commence to run later than the sixtieth day after the day of Bid opening or the thirtieth day after the Effective Date of the Contract, whichever date is earlier.

4.02 *Starting the Work*

- A. Contractor shall start to perform the Work on the date when the Contract Times commence to run. No Work shall be done at the Site prior to such date.

4.03 *Reference Points*

- A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Engineer whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

4.04 *Progress Schedule*

- A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.05 as it may be adjusted from time to time as provided below.
 - 1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.05) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times.
 - 2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 11.
- B. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, or during any appeal process, except as permitted by Paragraph 16.04, or as Owner and Contractor may otherwise agree in writing.

4.05 *Delays in Contractor's Progress*

- A. If Owner, Engineer, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in the Contract Times and Contract Price. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.

- B. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delay, disruption, or interference caused by or within the control of Contractor. Delay, disruption, and interference attributable to and within the control of a Subcontractor or Supplier shall be deemed to be within the control of Contractor.
- C. If Contractor's performance or progress is delayed, disrupted, or interfered with by unanticipated causes not the fault of and beyond the control of Owner, Contractor, and those for which they are responsible, then Contractor shall be entitled to an equitable adjustment in Contract Times. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays, disruption, and interference described in this paragraph. Causes of delay, disruption, or interference that may give rise to an adjustment in Contract Times under this paragraph include but are not limited to the following:
 - 1. severe and unavoidable natural catastrophes such as fires, floods, epidemics, and earthquakes;
 - 2. abnormal weather conditions;
 - 3. acts or failures to act of utility owners (other than those performing other work at or adjacent to the Site by arrangement with the Owner, as contemplated in Article 8); and
 - 4. acts of war or terrorism.
- D. Delays, disruption, and interference to the performance or progress of the Work resulting from the existence of a differing subsurface or physical condition, an Underground Facility that was not shown or indicated by the Contract Documents, or not shown or indicated with reasonable accuracy, and those resulting from Hazardous Environmental Conditions, are governed by Article 5.
- E. Paragraph 8.03 governs delays, disruption, and interference to the performance or progress of the Work resulting from the performance of certain other work at or adjacent to the Site.
- F. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for any delay, disruption, or interference if such delay is concurrent with a delay, disruption, or interference caused by or within the control of Contractor.
- G. Contractor must submit any Change Proposal seeking an adjustment in Contract Price or Contract Times under this paragraph within 30 days of the commencement of the delaying, disrupting, or interfering event.

ARTICLE 5 – AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS

5.01 *Availability of Lands*

- A. Owner shall furnish the Site. Owner shall notify Contractor of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work.

- B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which permanent improvements are to be made and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.
- C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

5.02 *Use of Site and Other Areas*

A. *Limitation on Use of Site and Other Areas:*

- 1. Contractor shall confine construction equipment, temporary construction facilities, the storage of materials and equipment, and the operations of workers to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and such other adjacent areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for (a) damage to the Site; (b) damage to any such other adjacent areas used for Contractor's operations; (c) damage to any other adjacent land or areas; and (d) for injuries and losses sustained by the owners or occupants of any such land or areas; provided that such damage or injuries result from the performance of the Work or from other actions or conduct of the Contractor or those for which Contractor is responsible.
 - 2. If a damage or injury claim is made by the owner or occupant of any such land or area because of the performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible, Contractor shall (a) take immediate corrective or remedial action as required by Paragraph 7.12, or otherwise; (b) promptly attempt to settle the claim as to all parties through negotiations with such owner or occupant, or otherwise resolve the claim by arbitration or other dispute resolution proceeding, or at law; and (c) to the fullest extent permitted by Laws and Regulations, indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against any such claim, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused directly or indirectly, in whole or in part by, or based upon, Contractor's performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible.
- B. *Removal of Debris During Performance of the Work:* During the progress of the Work the Contractor shall keep the Site and other adjacent areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.
 - C. *Cleaning:* Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the

Work Contractor shall remove from the Site and adjacent areas all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.

- D. *Loading of Structures:* Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent structures or land to stresses or pressures that will endanger them.

5.03 *Subsurface and Physical Conditions*

- A. *Reports and Drawings:* The Supplementary Conditions identify:

1. those reports known to Owner of explorations and tests of subsurface conditions at or adjacent to the Site;
2. those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities); and
3. Technical Data contained in such reports and drawings.

- B. *Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely upon the accuracy of the Technical Data (as defined in Article 1) contained in any geotechnical or environmental report prepared for the Project and made available to Contractor. Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or
2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or
3. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions, or information.

5.04 *Differing Subsurface or Physical Conditions*

- A. *Notice by Contractor:* If Contractor believes that any subsurface or physical condition that is uncovered or revealed at the Site either:

1. is of such a nature as to establish that any Technical Data on which Contractor is entitled to rely as provided in Paragraph 5.03 is materially inaccurate; or
2. is of such a nature as to require a change in the Drawings or Specifications; or
3. differs materially from that shown or indicated in the Contract Documents; or
4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except with respect to an emergency) until receipt of a written statement permitting Contractor to do so.

- B. *Engineer's Review:* After receipt of written notice as required by the preceding paragraph, Engineer will promptly review the subsurface or physical condition in question; determine the necessity of Owner's obtaining additional exploration or tests with respect to the condition; conclude whether the condition falls within any one or more of the differing site condition categories in Paragraph 5.04.A above; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the subsurface or physical condition in question and the need for any change in the Drawings or Specifications; and advise Owner in writing of Engineer's findings, conclusions, and recommendations.
- C. *Owner's Statement to Contractor Regarding Site Condition:* After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the subsurface or physical condition in question, addressing the resumption of Work in connection with such condition, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations, in whole or in part.
- D. *Possible Price and Times Adjustments:*
 - 1. Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times, or both, to the extent that the existence of a differing subsurface or physical condition, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:
 - a. such condition must fall within any one or more of the categories described in Paragraph 5.04.A;
 - b. with respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03; and,
 - c. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
 - 2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times with respect to a subsurface or physical condition if:
 - a. Contractor knew of the existence of such condition at the time Contractor made a commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract, or otherwise; or
 - b. the existence of such condition reasonably could have been discovered or revealed as a result of any examination, investigation, exploration, test, or

study of the Site and contiguous areas expressly required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such commitment; or

- c. Contractor failed to give the written notice as required by Paragraph 5.04.A.
- 3. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, or both, then any such adjustment shall be set forth in a Change Order.
- 4. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, or both, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the subsurface or physical condition in question.

5.05 *Underground Facilities*

- A. *Contractor's Responsibilities:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or adjacent to the Site is based on information and data furnished to Owner or Engineer by the owners of such Underground Facilities, including Owner, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:
 - 1. Owner and Engineer do not warrant or guarantee the accuracy or completeness of any such information or data provided by others; and
 - 2. the cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:
 - a. reviewing and checking all information and data regarding existing Underground Facilities at the Site;
 - b. locating all Underground Facilities shown or indicated in the Contract Documents as being at the Site;
 - c. coordination of the Work with the owners (including Owner) of such Underground Facilities, during construction; and
 - d. the safety and protection of all existing Underground Facilities at the Site, and repairing any damage thereto resulting from the Work.
- B. *Notice by Contractor:* If Contractor believes that an Underground Facility that is uncovered or revealed at the Site was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy, then Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer.
- C. *Engineer's Review:* Engineer will promptly review the Underground Facility and conclude whether such Underground Facility was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the

Underground Facility in question; determine the extent, if any, to which a change is required in the Drawings or Specifications to reflect and document the consequences of the existence or location of the Underground Facility; and advise Owner in writing of Engineer's findings, conclusions, and recommendations. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.

- D. *Owner's Statement to Contractor Regarding Underground Facility:* After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the Underground Facility in question, addressing the resumption of Work in connection with such Underground Facility, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations in whole or in part.

- E. *Possible Price and Times Adjustments:*

1. Contractor shall be entitled to an equitable adjustment in the Contract Price or Contract Times, or both, to the extent that any existing Underground Facility at the Site that was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:
 - a. Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated the existence or actual location of the Underground Facility in question;
 - b. With respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03;
 - c. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times; and
 - d. Contractor gave the notice required in Paragraph 5.05.B.
2. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, or both, then any such adjustment shall be set forth in a Change Order.
3. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, or both, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the Underground Facility in question.

5.06 *Hazardous Environmental Conditions at Site*

- A. *Reports and Drawings:* The Supplementary Conditions identify:
1. those reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site; and
 2. Technical Data contained in such reports and drawings.
- B. *Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions

with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely on the accuracy of the Technical Data (as defined in Article 1) contained in any geotechnical or environmental report prepared for the Project and made available to Contractor. Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor and safety precautions and programs incident thereto; or
 2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or
 3. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions or information.
- C. Contractor shall not be responsible for removing or remediating any Hazardous Environmental Condition encountered, uncovered, or revealed at the Site unless such removal or remediation is expressly identified in the Contract Documents to be within the scope of the Work.
- D. Contractor shall be responsible for controlling, containing, and duly removing all Constituents of Concern brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible, and for any associated costs; and for the costs of removing and remediating any Hazardous Environmental Condition created by the presence of any such Constituents of Concern.
- E. If Contractor encounters, uncovers, or reveals a Hazardous Environmental Condition whose removal or remediation is not expressly identified in the Contract Documents as being within the scope of the Work, or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, then Contractor shall immediately: (1) secure or otherwise isolate such condition; (2) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 7.15); and (3) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 5.06.F. If Contractor or anyone for whom Contractor is responsible created the Hazardous Environmental Condition in question, then Owner may remove and remediate the Hazardous Environmental Condition, and impose a set-off against payments to account for the associated costs.
- F. Contractor shall not resume Work in connection with such Hazardous Environmental Condition or in any affected area until after Owner has obtained any required permits related thereto, and delivered written notice to Contractor either (1) specifying that such condition and any affected area is or has been rendered safe for the resumption

of Work, or (2) specifying any special conditions under which such Work may be resumed safely.

- G. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, then within 30 days of Owner's written notice regarding the resumption of Work, Contractor may submit a Change Proposal, or Owner may impose a set-off.
- H. If after receipt of such written notice Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work, following the contractual change procedures in Article 11. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 8.
- I. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition (1) was not shown or indicated in the Drawings, Specifications, or other Contract Documents, identified as Technical Data entitled to limited reliance pursuant to Paragraph 5.06.B, or identified in the Contract Documents to be included within the scope of the Work, and (2) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.H shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- J. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the failure to control, contain, or remove a Constituent of Concern brought to the Site by Contractor or by anyone for whom Contractor is responsible, or to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.J shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- K. The provisions of Paragraphs 5.03, 5.04, and 5.05 do not apply to the presence of Constituents of Concern or to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 6 – BONDS AND INSURANCE

6.01 *Performance, Payment, and Other Bonds*

- A. Contractor shall furnish a performance bond and a payment bond, each in an amount at least equal to the Contract Price, as security for the faithful performance and payment of all of Contractor's obligations under the Contract. These bonds shall remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 15.08, whichever is later, except as provided otherwise by Laws or Regulations, the Supplementary Conditions, or other specific provisions of the Contract. Contractor shall also furnish such other bonds as are required by the Supplementary Conditions or other specific provisions of the Contract.
- B. All bonds shall be in the form prescribed by the Contract except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (as amended and supplemented) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. A bond signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual's authority to bind the surety. The evidence of authority shall show that it is effective on the date the agent or attorney-in-fact signed the accompanying bond.
- C. Contractor shall obtain the required bonds from surety companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds in the required amounts.
- D. If the surety on a bond furnished by Contractor is declared bankrupt or becomes insolvent, or its right to do business is terminated in any state or jurisdiction where any part of the Project is located, or the surety ceases to meet the requirements above, then Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the bond and surety requirements above.
- E. If Contractor has failed to obtain a required bond, Owner may exclude the Contractor from the Site and exercise Owner's termination rights under Article 16.
- F. Upon request, Owner shall provide a copy of the payment bond to any Subcontractor, Supplier, or other person or entity claiming to have furnished labor or materials used in the performance of the Work.

6.02 *Insurance—General Provisions*

- A. Owner and Contractor shall obtain and maintain insurance as required in this Article and in the Supplementary Conditions.
- B. All insurance required by the Contract to be purchased and maintained by Owner or Contractor shall be obtained from insurance companies that are duly licensed or authorized, in the state or jurisdiction in which the Project is located, to issue insurance policies for the required limits and coverages. Unless a different standard is indicated in the Supplementary Conditions, all companies that provide insurance policies required under this Contract shall have an A.M. Best rating of A-VII or better.

- C. Contractor shall deliver to Owner, with copies to each named insured and additional insured (as identified in this Article, in the Supplementary Conditions, or elsewhere in the Contract), certificates of insurance establishing that Contractor has obtained and is maintaining the policies, coverages, and endorsements required by the Contract. Upon request by Owner or any other insured, Contractor shall also furnish other evidence of such required insurance, including but not limited to copies of policies and endorsements, and documentation of applicable self-insured retentions and deductibles. Contractor may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.
- D. Owner shall deliver to Contractor, with copies to each named insured and additional insured (as identified in this Article, the Supplementary Conditions, or elsewhere in the Contract), certificates of insurance establishing that Owner has obtained and is maintaining the policies, coverages, and endorsements required of Owner by the Contract (if any). Upon request by Contractor or any other insured, Owner shall also provide other evidence of such required insurance (if any), including but not limited to copies of policies and endorsements, and documentation of applicable self-insured retentions and deductibles. Owner may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.
- E. Failure of Owner or Contractor to demand such certificates or other evidence of the other party's full compliance with these insurance requirements, or failure of Owner or Contractor to identify a deficiency in compliance from the evidence provided, shall not be construed as a waiver of the other party's obligation to obtain and maintain such insurance.
- F. If either party does not purchase or maintain all of the insurance required of such party by the Contract, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage.
- G. If Contractor has failed to obtain and maintain required insurance, Owner may exclude the Contractor from the Site, impose an appropriate set-off against payment, and exercise Owner's termination rights under Article 16.
- H. Without prejudice to any other right or remedy, if a party has failed to obtain required insurance, the other party may elect to obtain equivalent insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and the Contract Price shall be adjusted accordingly.
- I. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor or Contractor's interests.
- J. The insurance and insurance limits required herein shall not be deemed as a limitation on Contractor's liability under the indemnities granted to Owner and other individuals and entities in the Contract.

6.03 Contractor's Insurance

- A. *Workers' Compensation:* Contractor shall purchase and maintain workers' compensation and employer's liability insurance for:
 - 1. claims under workers' compensation, disability benefits, and other similar employee benefit acts.
 - 2. United States Longshoreman and Harbor Workers' Compensation Act and Jones Act coverage (if applicable).
 - 3. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees (by stop-gap endorsement in monopolist worker's compensation states).
 - 4. Foreign voluntary worker compensation (if applicable).
- B. *Commercial General Liability—Claims Covered:* Contractor shall purchase and maintain commercial general liability insurance, covering all operations by or on behalf of Contractor, on an occurrence basis, against:
 - 1. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees.
 - 2. claims for damages insured by reasonably available personal injury liability coverage.
 - 3. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom.
- C. *Commercial General Liability—Form and Content:* Contractor's commercial liability policy shall be written on a 1996 (or later) ISO commercial general liability form (occurrence form) and include the following coverages and endorsements:
 - 1. Products and completed operations coverage:
 - a. Such insurance shall be maintained for three years after final payment.
 - b. Contractor shall furnish Owner and each other additional insured (as identified in the Supplementary Conditions or elsewhere in the Contract) evidence of continuation of such insurance at final payment and three years thereafter.
 - 2. Blanket contractual liability coverage, to the extent permitted by law, including but not limited to coverage of Contractor's contractual indemnity obligations in Paragraph 7.18.
 - 3. Broad form property damage coverage.
 - 4. Severability of interest.
 - 5. Underground, explosion, and collapse coverage.
 - 6. Personal injury coverage.
 - 7. Additional insured endorsements that include both ongoing operations and products and completed operations coverage through ISO Endorsements CG 20 10

10 01 and CG 20 37 10 01 (together); or CG 20 10 07 04 and CG 20 37 07 04 (together); or their equivalent.

8. For design professional additional insureds, ISO Endorsement CG 20 32 07 04, “Additional Insured—Engineers, Architects or Surveyors Not Engaged by the Named Insured” or its equivalent.
- D. *Automobile liability*: Contractor shall purchase and maintain automobile liability insurance against claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance, or use of any motor vehicle. The automobile liability policy shall be written on an occurrence basis.
- E. *Umbrella or excess liability*: Contractor shall purchase and maintain umbrella or excess liability insurance written over the underlying employer’s liability, commercial general liability, and automobile liability insurance described in the paragraphs above. Subject to industry-standard exclusions, the coverage afforded shall follow form as to each and every one of the underlying policies.
- F. *Contractor’s pollution liability insurance*: Contractor shall purchase and maintain a policy covering third-party injury and property damage claims, including clean-up costs, as a result of pollution conditions arising from Contractor’s operations and completed operations. This insurance shall be maintained for no less than three years after final completion.
- G. *Additional insureds*: The Contractor’s commercial general liability, automobile liability, umbrella or excess, and pollution liability policies shall include and list as additional insureds Owner and Engineer, and any individuals or entities identified in the Supplementary Conditions; include coverage for the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of all such additional insureds; and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby (including as applicable those arising from both ongoing and completed operations) on a non-contributory basis. Contractor shall obtain all necessary endorsements to support these requirements.
- H. *Contractor’s professional liability insurance*: If Contractor will provide or furnish professional services under this Contract, through a delegation of professional design services or otherwise, then Contractor shall be responsible for purchasing and maintaining applicable professional liability insurance. This insurance shall provide protection against claims arising out of performance of professional design or related services, and caused by a negligent error, omission, or act for which the insured party is legally liable. It shall be maintained throughout the duration of the Contract and for a minimum of two years after Substantial Completion. If such professional design services are performed by a Subcontractor, and not by Contractor itself, then the requirements of this paragraph may be satisfied through the purchasing and maintenance of such insurance by such Subcontractor.
- I. *General provisions*: The policies of insurance required by this Paragraph 6.03 shall:
 1. include at least the specific coverages provided in this Article.

2. be written for not less than the limits of liability provided in this Article and in the Supplementary Conditions, or required by Laws or Regulations, whichever is greater.
 3. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed, or renewal refused until at least 10 days prior written notice has been given to Contractor. Within three days of receipt of any such written notice, Contractor shall provide a copy of the notice to Owner, Engineer, and each other insured under the policy.
 4. remain in effect at least until final payment (and longer if expressly required in this Article) and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work as a warranty or correction obligation, or otherwise, or returning to the Site to conduct other tasks arising from the Contract Documents.
 5. be appropriate for the Work being performed and provide protection from claims that may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable.
- J. The coverage requirements for specific policies of insurance must be met by such policies, and not by reference to excess or umbrella insurance provided in other policies.

6.04 *Owner's Liability Insurance*

- A. In addition to the insurance required to be provided by Contractor under Paragraph 6.03, Owner, at Owner's option, may purchase and maintain at Owner's expense Owner's own liability insurance as will protect Owner against claims which may arise from operations under the Contract Documents.
- B. Owner's liability policies, if any, operate separately and independently from policies required to be provided by Contractor, and Contractor cannot rely upon Owner's liability policies for any of Contractor's obligations to the Owner, Engineer, or third parties.

6.05 *Property Insurance*

- A. *Builder's Risk:* Unless otherwise provided in the Supplementary Conditions, Contractor shall purchase and maintain builder's risk insurance upon the Work on a completed value basis, in the amount of the full insurable replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:
 1. include the Owner and Contractor as named insureds, and all Subcontractors, and any individuals or entities required by the Supplementary Conditions to be insured under such builder's risk policy, as insureds or named insureds. For purposes of the remainder of this Paragraph 6.05, Paragraphs 6.06 and 6.07, and any corresponding Supplementary Conditions, the parties required to be insured shall collectively be referred to as "insureds."

2. be written on a builder's risk "all risk" policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, falsework, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire; lightning; windstorm; riot; civil commotion; terrorism; vehicle impact; aircraft; smoke; theft; vandalism and malicious mischief; mechanical breakdown, boiler explosion, and artificially generated electric current; earthquake; volcanic activity, and other earth movement; flood; collapse; explosion; debris removal; demolition occasioned by enforcement of Laws and Regulations; water damage (other than that caused by flood); and such other perils or causes of loss as may be specifically required by the Supplementary Conditions. If insurance against mechanical breakdown, boiler explosion, and artificially generated electric current; earthquake; volcanic activity, and other earth movement; or flood, are not commercially available under builder's risk policies, by endorsement or otherwise, such insurance may be provided through other insurance policies acceptable to Owner and Contractor.
3. cover, as insured property, at least the following: (a) the Work and all materials, supplies, machinery, apparatus, equipment, fixtures, and other property of a similar nature that are to be incorporated into or used in the preparation, fabrication, construction, erection, or completion of the Work, including Owner-furnished or assigned property; (b) spare parts inventory required within the scope of the Contract; and (c) temporary works which are not intended to form part of the permanent constructed Work but which are intended to provide working access to the Site, or to the Work under construction, or which are intended to provide temporary support for the Work under construction, including scaffolding, form work, fences, shoring, falsework, and temporary structures.
4. cover expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects).
5. extend to cover damage or loss to insured property while in temporary storage at the Site or in a storage location outside the Site (but not including property stored at the premises of a manufacturer or Supplier).
6. extend to cover damage or loss to insured property while in transit.
7. allow for partial occupation or use of the Work by Owner, such that those portions of the Work that are not yet occupied or used by Owner shall remain covered by the builder's risk insurance.
8. allow for the waiver of the insurer's subrogation rights, as set forth below.
9. provide primary coverage for all losses and damages caused by the perils or causes of loss covered.
10. not include a co-insurance clause.
11. include an exception for ensuing losses from physical damage or loss with respect to any defective workmanship, design, or materials exclusions.
12. include performance/hot testing and start-up.

13. be maintained in effect, subject to the provisions herein regarding Substantial Completion and partial occupancy or use of the Work by Owner, until the Work is complete.

- B. *Notice of Cancellation or Change:* All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with this Paragraph 6.05 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 10 days prior written notice has been given to the purchasing policyholder. Within three days of receipt of any such written notice, the purchasing policyholder shall provide a copy of the notice to each other insured.
- C. *Deductibles:* The purchaser of any required builder's risk or property insurance shall pay for costs not covered because of the application of a policy deductible.
- D. *Partial Occupancy or Use by Owner:* If Owner will occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in Paragraph 15.04, then Owner (directly, if it is the purchaser of the builder's risk policy, or through Contractor) will provide notice of such occupancy or use to the builder's risk insurer. The builder's risk insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy; rather, those portions of the Work that are occupied or used by Owner may come off the builder's risk policy, while those portions of the Work not yet occupied or used by Owner shall remain covered by the builder's risk insurance.
- E. *Additional Insurance:* If Contractor elects to obtain other special insurance to be included in or supplement the builder's risk or property insurance policies provided under this Paragraph 6.05, it may do so at Contractor's expense.
- F. *Insurance of Other Property:* If the express insurance provisions of the Contract do not require or address the insurance of a property item or interest, such as tools, construction equipment, or other personal property owned by Contractor, a Subcontractor, or an employee of Contractor or a Subcontractor, then the entity or individual owning such property item will be responsible for deciding whether to insure it, and if so in what amount.

6.06 *Waiver of Rights*

- A. All policies purchased in accordance with Paragraph 6.05, expressly including the builder's risk policy, shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any insureds thereunder, or against Engineer or its consultants, or their officers, directors, members, partners, employees, agents, consultants, or subcontractors. Owner and Contractor waive all rights against each other and the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Engineer, its consultants, all Subcontractors, all individuals or entities identified in the Supplementary Conditions as insureds, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any

party making such waiver may have to the proceeds of insurance held by Owner or Contractor as trustee or fiduciary, or otherwise payable under any policy so issued.

- B. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, for:
 - 1. loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other perils whether or not insured by Owner; and
 - 2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner during partial occupancy or use pursuant to Paragraph 15.04, after Substantial Completion pursuant to Paragraph 15.03, or after final payment pursuant to Paragraph 15.06.
- C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 6.06.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against Contractor, Subcontractors, or Engineer, or the officers, directors, members, partners, employees, agents, consultants, or subcontractors of each and any of them.
- D. Contractor shall be responsible for assuring that the agreement under which a Subcontractor performs a portion of the Work contains provisions whereby the Subcontractor waives all rights against Owner, Contractor, all individuals or entities identified in the Supplementary Conditions as insureds, the Engineer and its consultants, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by builder's risk insurance and any other property insurance applicable to the Work.

6.07 *Receipt and Application of Property Insurance Proceeds*

- A. Any insured loss under the builder's risk and other policies of insurance required by Paragraph 6.05 will be adjusted and settled with the named insured that purchased the policy. Such named insured shall act as fiduciary for the other insureds, and give notice to such other insureds that adjustment and settlement of a claim is in progress. Any other insured may state its position regarding a claim for insured loss in writing within 15 days after notice of such claim.
- B. Proceeds for such insured losses may be made payable by the insurer either jointly to multiple insureds, or to the named insured that purchased the policy in its own right and as fiduciary for other insureds, subject to the requirements of any applicable mortgage clause. A named insured receiving insurance proceeds under the builder's risk and other policies of insurance required by Paragraph 6.05 shall distribute such proceeds in accordance with such agreement as the parties in interest may reach, or as otherwise required under the dispute resolution provisions of this Contract or applicable Laws and Regulations.

- C. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the money so received applied on account thereof, and the Work and the cost thereof covered by Change Order, if needed.

ARTICLE 7 – CONTRACTOR’S RESPONSIBILITIES

7.01 *Supervision and Superintendence*

- A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction.
- B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who shall not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.

7.02 *Labor; Working Hours*

- A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall at all times maintain good discipline and order at the Site.
- B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours, Monday through Friday. Contractor will not perform Work on a Saturday, Sunday, or any legal holiday. Contractor may perform Work outside regular working hours or on Saturdays, Sundays, or legal holidays only with Owner’s written consent, which will not be unreasonably withheld.

7.03 *Services, Materials, and Equipment*

- A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start up, and completion of the Work, whether or not such items are specifically called for in the Contract Documents.
- B. All materials and equipment incorporated into the Work shall be of good quality and new, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications shall expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.
- C. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

7.04 "Or Equals"

- A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the Contract Price has been based upon Contractor furnishing such item as specified. The specification or description of such an item is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or equal" item is permitted, Contractor may request that Engineer authorize the use of other items of material or equipment, or items from other proposed suppliers under the circumstances described below.
1. If Engineer in its sole discretion determines that an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, Engineer shall deem it an "or equal" item. For the purposes of this paragraph, a proposed item of material or equipment will be considered functionally equal to an item so named if:
 - a. in the exercise of reasonable judgment Engineer determines that:
 - 1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;
 - 2) it will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole;
 - 3) it has a proven record of performance and availability of responsive service; and
 - 4) it is not objectionable to Owner.
 - b. Contractor certifies that, if approved and incorporated into the Work:
 - 1) there will be no increase in cost to the Owner or increase in Contract Times; and
 - 2) it will conform substantially to the detailed requirements of the item named in the Contract Documents.
- B. *Contractor's Expense:* Contractor shall provide all data in support of any proposed "or equal" item at Contractor's expense.
- C. *Engineer's Evaluation and Determination:* Engineer will be allowed a reasonable time to evaluate each "or-equal" request. Engineer may require Contractor to furnish additional data about the proposed "or-equal" item. Engineer will be the sole judge of acceptability. No "or-equal" item will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an "or-equal", which will be evidenced by an approved Shop Drawing or other written communication. Engineer will advise Contractor in writing of any negative determination.
- D. *Effect of Engineer's Determination:* Neither approval nor denial of an "or-equal" request shall result in any change in Contract Price. The Engineer's denial of an "or-

equal” request shall be final and binding, and may not be reversed through an appeal under any provision of the Contract Documents.

- E. *Treatment as a Substitution Request:* If Engineer determines that an item of material or equipment proposed by Contractor does not qualify as an “or-equal” item, Contractor may request that Engineer considered the proposed item as a substitute pursuant to Paragraph 7.05.

7.05 *Substitutes*

- A. Unless the specification or description of an item of material or equipment required to be furnished under the Contract Documents contains or is followed by words reading that no substitution is permitted, Contractor may request that Engineer authorize the use of other items of material or equipment under the circumstances described below. To the extent possible such requests shall be made before commencement of related construction at the Site.
 - 1. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is functionally equivalent to that named and an acceptable substitute therefor. Engineer will not accept requests for review of proposed substitute items of material or equipment from anyone other than Contractor.
 - 2. The requirements for review by Engineer will be as set forth in Paragraph 7.05.B, as supplemented by the Specifications, and as Engineer may decide is appropriate under the circumstances.
 - 3. Contractor shall make written application to Engineer for review of a proposed substitute item of material or equipment that Contractor seeks to furnish or use. The application:
 - a. shall certify that the proposed substitute item will:
 - 1) perform adequately the functions and achieve the results called for by the general design,
 - 2) be similar in substance to that specified, and
 - 3) be suited to the same use as that specified.
 - b. will state:
 - 1) the extent, if any, to which the use of the proposed substitute item will necessitate a change in Contract Times,
 - 2) whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item, and
 - 3) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty.
 - c. will identify:
 - 1) all variations of the proposed substitute item from that specified, and

- 2) available engineering, sales, maintenance, repair, and replacement services.
- d. shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including but not limited to changes in Contract Price, shared savings, costs of redesign, and claims of other contractors affected by any resulting change.
- B. *Engineer's Evaluation and Determination:* Engineer will be allowed a reasonable time to evaluate each substitute request, and to obtain comments and direction from Owner. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No substitute will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an acceptable substitute. Engineer's determination will be evidenced by a Field Order or a proposed Change Order accounting for the substitution itself and all related impacts, including changes in Contract Price or Contract Times. Engineer will advise Contractor in writing of any negative determination.
- C. *Special Guarantee:* Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.
- D. *Reimbursement of Engineer's Cost:* Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.
- E. *Contractor's Expense:* Contractor shall provide all data in support of any proposed substitute at Contractor's expense.
- F. *Effect of Engineer's Determination:* If Engineer approves the substitution request, Contractor shall execute the proposed Change Order and proceed with the substitution. The Engineer's denial of a substitution request shall be final and binding, and may not be reversed through an appeal under any provision of the Contract Documents. Contractor may challenge the scope of reimbursement costs imposed under Paragraph 7.05.D, by timely submittal of a Change Proposal.

7.06 *Concerning Subcontractors, Suppliers, and Others*

- A. Contractor may retain Subcontractors and Suppliers for the performance of parts of the Work. Such Subcontractors and Suppliers must be acceptable to Owner.
- B. Contractor shall retain specific Subcontractors, Suppliers, or other individuals or entities for the performance of designated parts of the Work if required by the Contract to do so.
- C. Subsequent to the submittal of Contractor's Bid or final negotiation of the terms of the Contract, Owner may not require Contractor to retain any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against which Contractor has reasonable objection.

- D. Prior to entry into any binding subcontract or purchase order, Contractor shall submit to Owner the identity of the proposed Subcontractor or Supplier (unless Owner has already deemed such proposed Subcontractor or Supplier acceptable, during the bidding process or otherwise). Such proposed Subcontractor or Supplier shall be deemed acceptable to Owner unless Owner raises a substantive, reasonable objection within five days.
- E. Owner may require the replacement of any Subcontractor, Supplier, or other individual or entity retained by Contractor to perform any part of the Work. Owner also may require Contractor to retain specific replacements; provided, however, that Owner may not require a replacement to which Contractor has a reasonable objection. If Contractor has submitted the identity of certain Subcontractors, Suppliers, or other individuals or entities for acceptance by Owner, and Owner has accepted it (either in writing or by failing to make written objection thereto), then Owner may subsequently revoke the acceptance of any such Subcontractor, Supplier, or other individual or entity so identified solely on the basis of substantive, reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity.
- F. If Owner requires the replacement of any Subcontractor, Supplier, or other individual or entity retained by Contractor to perform any part of the Work, then Contractor shall be entitled to an adjustment in Contract Price or Contract Times, or both, with respect to the replacement; and Contractor shall initiate a Change Proposal for such adjustment within 30 days of Owner's requirement of replacement.
- G. No acceptance by Owner of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of the right of Owner to the completion of the Work in accordance with the Contract Documents.
- H. On a monthly basis Contractor shall submit to Engineer a complete list of all Subcontractors and Suppliers having a direct contract with Contractor, and of all other Subcontractors and Suppliers known to Contractor at the time of submittal.
- I. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions.
- J. Contractor shall be solely responsible for scheduling and coordinating the work of Subcontractors, Suppliers, and all other individuals or entities performing or furnishing any of the Work.
- K. Contractor shall restrict all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work from communicating with Engineer or Owner, except through Contractor or in case of an emergency, or as otherwise expressly allowed herein.
- L. The divisions and sections of the Specifications and the identifications of any Drawings shall not control Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.
- M. All Work performed for Contractor by a Subcontractor or Supplier shall be pursuant to an appropriate contractual agreement that specifically binds the Subcontractor or

Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer.

- N. Owner may furnish to any Subcontractor or Supplier, to the extent practicable, information about amounts paid to Contractor on account of Work performed for Contractor by the particular Subcontractor or Supplier.
- O. Nothing in the Contract Documents:
 - 1. shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier, or other individual or entity; nor
 - 2. shall create any obligation on the part of Owner or Engineer to pay or to see to the payment of any money due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.

7.07 *Patent Fees and Royalties*

- A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if, to the actual knowledge of Owner or Engineer, its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by Owner in the Contract Documents.
- B. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, and its officers, directors, members, partners, employees, agents, consultants, and subcontractors from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device specified in the Contract Documents, but not identified as being subject to payment of any license fee or royalty to others required by patent rights or copyrights.
- C. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

7.08 *Permits*

- A. Unless otherwise provided in the Contract Documents, Contractor shall obtain and pay for all construction permits and licenses. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental

charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of the submission of Contractor's Bid (or when Contractor became bound under a negotiated contract). Owner shall pay all charges of utility owners for connections for providing permanent service to the Work.

7.09 *Taxes*

- A. Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

7.10 *Laws and Regulations*

- A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.
- B. If Contractor performs any Work or takes any other action knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all resulting costs and losses, and shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work or other action. It shall not be Contractor's responsibility to make certain that the Work described in the Contract Documents is in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.
- C. Owner or Contractor may give notice to the other party of any changes after the submission of Contractor's Bid (or after the date when Contractor became bound under a negotiated contract) in Laws or Regulations having an effect on the cost or time of performance of the Work, including but not limited to changes in Laws or Regulations having an effect on procuring permits and on sales, use, value-added, consumption, and other similar taxes. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times resulting from such changes, then within 30 days of such notice Contractor may submit a Change Proposal, or Owner may initiate a Claim.

7.11 *Record Documents*

- A. Contractor shall maintain in a safe place at the Site one printed record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, written interpretations and clarifications, and approved Shop Drawings. Contractor shall keep such record documents in good order and annotate them to show changes made during construction. These record documents, together with all approved Samples, will be available to Engineer for reference. Upon completion of the Work, Contractor shall deliver these record documents to Engineer.

7.12 *Safety and Protection*

- A. Contractor shall be solely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury, or loss to:
 - 1. all persons on the Site or who may be affected by the Work;
 - 2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
 - 3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, other work in progress, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.
- B. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify Owner; the owners of adjacent property, Underground Facilities, and other utilities; and other contractors and utility owners performing work at or adjacent to the Site, when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property or work in progress.
- C. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. The Supplementary Conditions identify any Owner's safety programs that are applicable to the Work.
- D. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.
- E. All damage, injury, or loss to any property referred to in Paragraph 7.12.A.2 or 7.12.A.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor at its expense (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).
- F. Contractor's duties and responsibilities for safety and protection shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with Paragraph 15.06.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).
- G. Contractor's duties and responsibilities for safety and protection shall resume whenever Contractor or any Subcontractor or Supplier returns to the Site to fulfill

warranty or correction obligations, or to conduct other tasks arising from the Contract Documents.

7.13 *Safety Representative*

- A. Contractor shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

7.14 *Hazard Communication Programs*

- A. Contractor shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

7.15 *Emergencies*

- A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to act to prevent threatened damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If Engineer determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued.

7.16 *Shop Drawings, Samples, and Other Submittals*

A. *Shop Drawing and Sample Submittal Requirements:*

1. Before submitting a Shop Drawing or Sample, Contractor shall have:
 - a. reviewed and coordinated the Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;
 - b. determined and verified all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;
 - c. determined and verified the suitability of all materials and equipment offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and
 - d. determined and verified all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto.
2. Each submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review of that submittal, and that Contractor approves the submittal.

3. With each submittal, Contractor shall give Engineer specific written notice of any variations that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be set forth in a written communication separate from the Shop Drawings or Sample submittal; and, in addition, in the case of Shop Drawings by a specific notation made on each Shop Drawing submitted to Engineer for review and approval of each such variation.
- B. *Submittal Procedures for Shop Drawings and Samples:* Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals. Each submittal will be identified as Engineer may require.
1. *Shop Drawings:*
 - a. Contractor shall submit the number of copies required in the Specifications.
 - b. Data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide and to enable Engineer to review the information for the limited purposes required by Paragraph 7.16.D.
 2. *Samples:*
 - a. Contractor shall submit the number of Samples required in the Specifications.
 - b. Contractor shall clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the submittal for the limited purposes required by Paragraph 7.16.D.
 3. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.
- C. *Other Submittals:* Contractor shall submit other submittals to Engineer in accordance with the accepted Schedule of Submittals, and pursuant to the applicable terms of the Specifications.
- D. *Engineer's Review:*
1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. Engineer's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.
 2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction or to safety precautions or programs incident thereto.
 3. Engineer's review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.

4. Engineer's review and approval of a Shop Drawing or Sample shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 7.16.A.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer will document any such approved variation from the requirements of the Contract Documents in a Field Order.
5. Engineer's review and approval of a Shop Drawing or Sample shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 7.16.A and B.
6. Engineer's review and approval of a Shop Drawing or Sample, or of a variation from the requirements of the Contract Documents, shall not, under any circumstances, change the Contract Times or Contract Price, unless such changes are included in a Change Order.
7. Neither Engineer's receipt, review, acceptance or approval of a Shop Drawing, Sample, or other submittal shall result in such item becoming a Contract Document.
8. Contractor shall perform the Work in compliance with the requirements and commitments set forth in approved Shop Drawings and Samples, subject to the provisions of Paragraph 7.16.D.4.

E. *Resubmittal Procedures:*

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous submittals.
2. Contractor shall furnish required submittals with sufficient information and accuracy to obtain required approval of an item with no more than three submittals. Engineer will record Engineer's time for reviewing a fourth or subsequent submittal of a Shop Drawings, sample, or other item requiring approval, and Contractor shall be responsible for Engineer's charges to Owner for such time. Owner may impose a set-off against payments due to Contractor to secure reimbursement for such charges.
3. If Contractor requests a change of a previously approved submittal item, Contractor shall be responsible for Engineer's charges to Owner for its review time, and Owner may impose a set-off against payments due to Contractor to secure reimbursement for such charges, unless the need for such change is beyond the control of Contractor.

7.17 *Contractor's General Warranty and Guarantee*

- A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer and its officers, directors, members, partners, employees, agents, consultants, and subcontractors shall be entitled to rely on Contractor's warranty and guarantee.

- B. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:
 - 1. abuse, modification, or improper maintenance or operation by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or
 - 2. normal wear and tear under normal usage.
- C. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:
 - 1. observations by Engineer;
 - 2. recommendation by Engineer or payment by Owner of any progress or final payment;
 - 3. the issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;
 - 4. use or occupancy of the Work or any part thereof by Owner;
 - 5. any review and approval of a Shop Drawing or Sample submittal;
 - 6. the issuance of a notice of acceptability by Engineer;
 - 7. any inspection, test, or approval by others; or
 - 8. any correction of defective Work by Owner.
- D. If the Contract requires the Contractor to accept the assignment of a contract entered into by Owner, then the specific warranties, guarantees, and correction obligations contained in the assigned contract shall govern with respect to Contractor's performance obligations to Owner for the Work described in the assigned contract.

7.18 *Indemnification*

- A. To the fullest extent permitted by Laws and Regulations, and in addition to any other obligations of Contractor under the Contract or otherwise, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable.
- B. In any and all claims against Owner or Engineer or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors by any

employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 7.18.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.

- C. The indemnification obligations of Contractor under Paragraph 7.18.A shall not extend to the liability of Engineer and Engineer's officers, directors, members, partners, employees, agents, consultants and subcontractors arising out of:
 - 1. the preparation or approval of, or the failure to prepare or approve maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or
 - 2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

7.19 *Delegation of Professional Design Services*

- A. Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. Contractor shall not be required to provide professional services in violation of applicable Laws and Regulations.
- B. If professional design services or certifications by a design professional related to systems, materials, or equipment are specifically required of Contractor by the Contract Documents, Owner and Engineer will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to Engineer.
- C. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy, and completeness of the services, certifications, or approvals performed by such design professionals, provided Owner and Engineer have specified to Contractor all performance and design criteria that such services must satisfy.
- D. Pursuant to this paragraph, Engineer's review and approval of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract Documents. Engineer's review and approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 7.16.D.1.
- E. Contractor shall not be responsible for the adequacy of the performance or design criteria specified by Owner or Engineer.

ARTICLE 8 – OTHER WORK AT THE SITE

8.01 *Other Work*

- A. In addition to and apart from the Work under the Contract Documents, the Owner may perform other work at or adjacent to the Site. Such other work may be performed by Owner's employees, or through contracts between the Owner and third parties. Owner may also arrange to have third-party utility owners perform work on their utilities and facilities at or adjacent to the Site.
- B. If Owner performs other work at or adjacent to the Site with Owner's employees, or through contracts for such other work, then Owner shall give Contractor written notice thereof prior to starting any such other work. If Owner has advance information regarding the start of any utility work at or adjacent to the Site, Owner shall provide such information to Contractor.
- C. Contractor shall afford each other contractor that performs such other work, each utility owner performing other work, and Owner, if Owner is performing other work with Owner's employees, proper and safe access to the Site, and provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be affected.
- D. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 8, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.

8.02 *Coordination*

- A. If Owner intends to contract with others for the performance of other work at or adjacent to the Site, to perform other work at or adjacent to the Site with Owner's employees, or to arrange to have utility owners perform work at or adjacent to the Site, the following will be set forth in the Supplementary Conditions or provided to Contractor prior to the start of any such other work:
 - 1. the identity of the individual or entity that will have authority and responsibility for coordination of the activities among the various contractors;
 - 2. an itemization of the specific matters to be covered by such authority and responsibility; and
 - 3. the extent of such authority and responsibilities.
- B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

8.03 *Legal Relationships*

- A. If, in the course of performing other work at or adjacent to the Site for Owner, the Owner's employees, any other contractor working for Owner, or any utility owner causes damage to the Work or to the property of Contractor or its Subcontractors, or delays, disrupts, interferes with, or increases the scope or cost of the performance of the Work, through actions or inaction, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times, or both. Contractor must submit any Change Proposal seeking an equitable adjustment in the Contract Price or the Contract Times under this paragraph within 30 days of the damaging, delaying, disrupting, or interfering event. The entitlement to, and extent of, any such equitable adjustment shall take into account information (if any) regarding such other work that was provided to Contractor in the Contract Documents prior to the submittal of the Bid or the final negotiation of the terms of the Contract. When applicable, any such equitable adjustment in Contract Price shall be conditioned on Contractor assigning to Owner all Contractor's rights against such other contractor or utility owner with respect to the damage, delay, disruption, or interference that is the subject of the adjustment. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
- B. Contractor shall take reasonable and customary measures to avoid damaging, delaying, disrupting, or interfering with the work of Owner, any other contractor, or any utility owner performing other work at or adjacent to the Site. If Contractor fails to take such measures and as a result damages, delays, disrupts, or interferes with the work of any such other contractor or utility owner, then Owner may impose a set-off against payments due to Contractor, and assign to such other contractor or utility owner the Owner's contractual rights against Contractor with respect to the breach of the obligations set forth in this paragraph.
- C. When Owner is performing other work at or adjacent to the Site with Owner's employees, Contractor shall be liable to Owner for damage to such other work, and for the reasonable direct delay, disruption, and interference costs incurred by Owner as a result of Contractor's failure to take reasonable and customary measures with respect to Owner's other work. In response to such damage, delay, disruption, or interference, Owner may impose a set-off against payments due to Contractor.
- D. If Contractor damages, delays, disrupts, or interferes with the work of any other contractor, or any utility owner performing other work at or adjacent to the Site, through Contractor's failure to take reasonable and customary measures to avoid such impacts, or if any claim arising out of Contractor's actions, inactions, or negligence in performance of the Work at or adjacent to the Site is made by any such other contractor or utility owner against Contractor, Owner, or Engineer, then Contractor shall (1) promptly attempt to settle the claim as to all parties through negotiations with such other contractor or utility owner, or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law, and (2) indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against any such claims, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all

court or arbitration or other dispute resolution costs) arising out of or relating to such damage, delay, disruption, or interference.

ARTICLE 9 – OWNER’S RESPONSIBILITIES

9.01 *Communications to Contractor*

- A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.

9.02 *Replacement of Engineer*

- A. Owner may at its discretion appoint an engineer to replace Engineer, provided Contractor makes no reasonable objection to the replacement engineer. The replacement engineer’s status under the Contract Documents shall be that of the former Engineer.

9.03 *Furnish Data*

- A. Owner shall promptly furnish the data required of Owner under the Contract Documents.

9.04 *Pay When Due*

- A. Owner shall make payments to Contractor when they are due as provided in the Agreement.

9.05 *Lands and Easements; Reports, Tests, and Drawings*

- A. Owner’s duties with respect to providing lands and easements are set forth in Paragraph 5.01.
- B. Owner’s duties with respect to providing engineering surveys to establish reference points are set forth in Paragraph 4.03.
- C. Article 5 refers to Owner’s identifying and making available to Contractor copies of reports of explorations and tests of conditions at the Site, and drawings of physical conditions relating to existing surface or subsurface structures at the Site.

9.06 *Insurance*

- A. Owner’s responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 6.

9.07 *Change Orders*

- A. Owner’s responsibilities with respect to Change Orders are set forth in Article 11.

9.08 *Inspections, Tests, and Approvals*

- A. Owner’s responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 14.02.B.

9.09 *Limitations on Owner’s Responsibilities*

- A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor’s means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the

performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

9.10 *Undisclosed Hazardous Environmental Condition*

- A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 5.06.

9.11 *Evidence of Financial Arrangements*

- A. Upon request of Contractor, Owner shall furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract Documents (including obligations under proposed changes in the Work).

9.12 *Safety Programs*

- A. While at the Site, Owner's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Owner has been informed.
- B. Owner shall furnish copies of any applicable Owner safety programs to Contractor.

ARTICLE 10 – ENGINEER'S STATUS DURING CONSTRUCTION

10.01 *Owner's Representative*

- A. Engineer will be Owner's representative during the construction period. The duties and responsibilities and the limitations of authority of Engineer as Owner's representative during construction are set forth in the Contract.

10.02 *Visits to Site*

- A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.
- B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 10.08. Particularly, but without limitation, during or as a result of Engineer's visits or observations of Contractor's Work, Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

10.03 *Project Representative*

- A. If Owner and Engineer have agreed that Engineer will furnish a Resident Project Representative to represent Engineer at the Site and assist Engineer in observing the progress and quality of the Work, then the authority and responsibilities of any such Resident Project Representative will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in Paragraph 10.08. If Owner designates another representative or agent to represent Owner at the Site who is not Engineer's consultant, agent, or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

10.04 *Rejecting Defective Work*

- A. Engineer has the authority to reject Work in accordance with Article 14.

10.05 *Shop Drawings, Change Orders and Payments*

- A. Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, are set forth in Paragraph 7.16.
- B. Engineer's authority, and limitations thereof, as to design calculations and design drawings submitted in response to a delegation of professional design services, if any, are set forth in Paragraph 7.19.
- C. Engineer's authority as to Change Orders is set forth in Article 11.
- D. Engineer's authority as to Applications for Payment is set forth in Article 15.

10.06 *Determinations for Unit Price Work*

- A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor as set forth in Paragraph 13.03.

10.07 *Decisions on Requirements of Contract Documents and Acceptability of Work*

- A. Engineer will render decisions regarding the requirements of the Contract Documents, and judge the acceptability of the Work, pursuant to the specific procedures set forth herein for initial interpretations, Change Proposals, and acceptance of the Work. In rendering such decisions and judgments, Engineer will not show partiality to Owner or Contractor, and will not be liable to Owner, Contractor, or others in connection with any proceedings, interpretations, decisions, or judgments conducted or rendered in good faith.

10.08 *Limitations on Engineer's Authority and Responsibilities*

- A. Neither Engineer's authority or responsibility under this Article 10 or under any other provision of the Contract, nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer, shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.
- B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or

the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

- C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.
- D. Engineer's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Paragraph 15.06.A will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals, that the results certified indicate compliance with the Contract Documents.
- E. The limitations upon authority and responsibility set forth in this Paragraph 10.08 shall also apply to the Resident Project Representative, if any.

10.09 *Compliance with Safety Program*

- A. While at the Site, Engineer's employees and representatives will comply with the specific applicable requirements of Owner's and Contractor's safety programs (if any) of which Engineer has been informed.

ARTICLE 11 – AMENDING THE CONTRACT DOCUMENTS; CHANGES IN THE WORK

11.01 *Amending and Supplementing Contract Documents*

- A. The Contract Documents may be amended or supplemented by a Change Order, a Work Change Directive, or a Field Order.
 - 1. *Change Orders:*
 - a. If an amendment or supplement to the Contract Documents includes a change in the Contract Price or the Contract Times, such amendment or supplement must be set forth in a Change Order. A Change Order also may be used to establish amendments and supplements of the Contract Documents that do not affect the Contract Price or Contract Times.
 - b. Owner and Contractor may amend those terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, without the recommendation of the Engineer. Such an amendment shall be set forth in a Change Order.
 - 2. *Work Change Directives:* A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the modification ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order, following negotiations by the parties as to the Work Change Directive's effect, if any, on the Contract Price and Contract Times; or, if negotiations are unsuccessful, by a determination under the

terms of the Contract Documents governing adjustments, expressly including Paragraph 11.04 regarding change of Contract Price. Contractor must submit any Change Proposal seeking an adjustment of the Contract Price or the Contract Times, or both, no later than 30 days after the completion of the Work set out in the Work Change Directive. Owner must submit any Claim seeking an adjustment of the Contract Price or the Contract Times, or both, no later than 60 days after issuance of the Work Change Directive.

3. *Field Orders*: Engineer may authorize minor changes in the Work if the changes do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Such changes will be accomplished by a Field Order and will be binding on Owner and also on Contractor, which shall perform the Work involved promptly. If Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, then before proceeding with the Work at issue, Contractor shall submit a Change Proposal as provided herein.

11.02 *Owner-Authorized Changes in the Work*

- A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work. Such changes shall be supported by Engineer's recommendation, to the extent the change involves the design (as set forth in the Drawings, Specifications, or otherwise), or other engineering or technical matters. Such changes may be accomplished by a Change Order, if Owner and Contractor have agreed as to the effect, if any, of the changes on Contract Times or Contract Price; or by a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved; or, in the case of a deletion in the Work, promptly cease construction activities with respect to such deleted Work. Added or revised Work shall be performed under the applicable conditions of the Contract Documents. Nothing in this paragraph shall obligate Contractor to undertake work that Contractor reasonably concludes cannot be performed in a manner consistent with Contractor's safety obligations under the Contract Documents or Laws and Regulations.

11.03 *Unauthorized Changes in the Work*

- A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents, as amended, modified, or supplemented, except in the case of an emergency as provided in Paragraph 7.15 or in the case of uncovering Work as provided in Paragraph 14.05.

11.04 *Change of Contract Price*

- A. The Contract Price may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Price shall comply with the provisions of Paragraph 11.06. Any Claim for an adjustment of Contract Price shall comply with the provisions of Article 12.

- B. An adjustment in the Contract Price will be determined as follows:
1. where the Work involved is covered by unit prices contained in the Contract Documents, then by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 13.03); or
 2. where the Work involved is not covered by unit prices contained in the Contract Documents, then by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 11.04.C.2); or
 3. where the Work involved is not covered by unit prices contained in the Contract Documents and the parties do not reach mutual agreement to a lump sum, then on the basis of the Cost of the Work (determined as provided in Paragraph 13.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 11.04.C).
- C. *Contractor's Fee*: When applicable, the Contractor's fee for overhead and profit shall be determined as follows:
1. a mutually acceptable fixed fee; or
 2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:
 - a. for costs incurred under Paragraphs 13.01.B.1 and 13.01.B.2, the Contractor's fee shall be 15 percent;
 - b. for costs incurred under Paragraph 13.01.B.3, the Contractor's fee shall be five percent;
 - c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 11.01.C.2.a and 11.01.C.2.b is that the Contractor's fee shall be based on: (1) a fee of 15 percent of the costs incurred under Paragraphs 13.01.A.1 and 13.01.A.2 by the Subcontractor that actually performs the Work, at whatever tier, and (2) with respect to Contractor itself and to any Subcontractors of a tier higher than that of the Subcontractor that actually performs the Work, a fee of five percent of the amount (fee plus underlying costs incurred) attributable to the next lower tier Subcontractor; provided, however, that for any such subcontracted work the maximum total fee to be paid by Owner shall be no greater than 27 percent of the costs incurred by the Subcontractor that actually performs the work;
 - d. no fee shall be payable on the basis of costs itemized under Paragraphs 13.01.B.4, 13.01.B.5, and 13.01.C;
 - e. the amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and
 - f. when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net

change in accordance with Paragraphs 11.04.C.2.a through 11.04.C.2.e, inclusive.

11.05 *Change of Contract Times*

- A. The Contract Times may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Times shall comply with the provisions of Paragraph 11.06. Any Claim for an adjustment in the Contract Times shall comply with the provisions of Article 12.
- B. An adjustment of the Contract Times shall be subject to the limitations set forth in Paragraph 4.05, concerning delays in Contractor's progress.

11.06 *Change Proposals*

- A. Contractor shall submit a Change Proposal to Engineer to request an adjustment in the Contract Times or Contract Price; appeal an initial decision by Engineer concerning the requirements of the Contract Documents or relating to the acceptability of the Work under the Contract Documents; contest a set-off against payment due; or seek other relief under the Contract. The Change Proposal shall specify any proposed change in Contract Times or Contract Price, or both, or other proposed relief, and explain the reason for the proposed change, with citations to any governing or applicable provisions of the Contract Documents.
 - 1. *Procedures:* Contractor shall submit each Change Proposal to Engineer promptly (but in no event later than 30 days) after the start of the event giving rise thereto, or after such initial decision. The Contractor shall submit supporting data, including the proposed change in Contract Price or Contract Time (if any), to the Engineer and Owner within 15 days after the submittal of the Change Proposal. The supporting data shall be accompanied by a written statement that the supporting data are accurate and complete, and that any requested time or price adjustment is the entire adjustment to which Contractor believes it is entitled as a result of said event. Engineer will advise Owner regarding the Change Proposal, and consider any comments or response from Owner regarding the Change Proposal.
 - 2. *Engineer's Action:* Engineer will review each Change Proposal and, within 30 days after receipt of the Contractor's supporting data, either deny the Change Proposal in whole, approve it in whole, or deny it in part and approve it in part. Such actions shall be in writing, with a copy provided to Owner and Contractor. If Engineer does not take action on the Change Proposal within 30 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of Engineer's inaction the Change Proposal is deemed denied, thereby commencing the time for appeal of the denial under Article 12.
 - 3. *Binding Decision:* Engineer's decision will be final and binding upon Owner and Contractor, unless Owner or Contractor appeals the decision by filing a Claim under Article 12.
- B. *Resolution of Certain Change Proposals:* If the Change Proposal does not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters, then Engineer will notify the parties that the Engineer is unable to resolve the Change Proposal. For purposes of

further resolution of such a Change Proposal, such notice shall be deemed a denial, and Contractor may choose to seek resolution under the terms of Article 12.

11.07 *Execution of Change Orders*

- A. Owner and Contractor shall execute appropriate Change Orders covering:
 - 1. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive;
 - 2. changes in Contract Price resulting from an Owner set-off, unless Contractor has duly contested such set-off;
 - 3. changes in the Work which are: (a) ordered by Owner pursuant to Paragraph 11.02, (b) required because of Owner's acceptance of defective Work under Paragraph 14.04 or Owner's correction of defective Work under Paragraph 14.07, or (c) agreed to by the parties, subject to the need for Engineer's recommendation if the change in the Work involves the design (as set forth in the Drawings, Specifications, or otherwise), or other engineering or technical matters; and
 - 4. changes in the Contract Price or Contract Times, or other changes, which embody the substance of any final and binding results under Paragraph 11.06, or Article 12.
- B. If Owner or Contractor refuses to execute a Change Order that is required to be executed under the terms of this Paragraph 11.07, it shall be deemed to be of full force and effect, as if fully executed.

11.08 *Notification to Surety*

- A. If the provisions of any bond require notice to be given to a surety of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times), the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

ARTICLE 12 – CLAIMS

12.01 *Claims*

- A. *Claims Process:* The following disputes between Owner and Contractor shall be submitted to the Claims process set forth in this Article:
 - 1. Appeals by Owner or Contractor of Engineer's decisions regarding Change Proposals;
 - 2. Owner demands for adjustments in the Contract Price or Contract Times, or other relief under the Contract Documents; and
 - 3. Disputes that Engineer has been unable to address because they do not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters.
- B. *Submittal of Claim:* The party submitting a Claim shall deliver it directly to the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto; in the case of appeals regarding Change Proposals within 30

days of the decision under appeal. The party submitting the Claim shall also furnish a copy to the Engineer, for its information only. The responsibility to substantiate a Claim shall rest with the party making the Claim. In the case of a Claim by Contractor seeking an increase in the Contract Times or Contract Price, or both, Contractor shall certify that the Claim is made in good faith, that the supporting data are accurate and complete, and that to the best of Contractor's knowledge and belief the amount of time or money requested accurately reflects the full amount to which Contractor is entitled.

- C. *Review and Resolution:* The party receiving a Claim shall review it thoroughly, giving full consideration to its merits. The two parties shall seek to resolve the Claim through the exchange of information and direct negotiations. The parties may extend the time for resolving the Claim by mutual agreement. All actions taken on a Claim shall be stated in writing and submitted to the other party, with a copy to Engineer.
- D. *Mediation:*
 - 1. At any time after initiation of a Claim, Owner and Contractor may mutually agree to mediation of the underlying dispute. The agreement to mediate shall stay the Claim submittal and response process.
 - 2. If Owner and Contractor agree to mediation, then after 60 days from such agreement, either Owner or Contractor may unilaterally terminate the mediation process, and the Claim submittal and decision process shall resume as of the date of the termination. If the mediation proceeds but is unsuccessful in resolving the dispute, the Claim submittal and decision process shall resume as of the date of the conclusion of the mediation, as determined by the mediator.
 - 3. Owner and Contractor shall each pay one-half of the mediator's fees and costs.
- E. *Partial Approval:* If the party receiving a Claim approves the Claim in part and denies it in part, such action shall be final and binding unless within 30 days of such action the other party invokes the procedure set forth in Article 17 for final resolution of disputes.
- F. *Denial of Claim:* If efforts to resolve a Claim are not successful, the party receiving the Claim may deny it by giving written notice of denial to the other party. If the receiving party does not take action on the Claim within 90 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of the inaction, the Claim is deemed denied, thereby commencing the time for appeal of the denial. A denial of the Claim shall be final and binding unless within 30 days of the denial the other party invokes the procedure set forth in Article 17 for the final resolution of disputes.
- G. *Final and Binding Results:* If the parties reach a mutual agreement regarding a Claim, whether through approval of the Claim, direct negotiations, mediation, or otherwise; or if a Claim is approved in part and denied in part, or denied in full, and such actions become final and binding; then the results of the agreement or action on the Claim shall be incorporated in a Change Order to the extent they affect the Contract, including the Work, the Contract Times, or the Contract Price.

ARTICLE 13 – COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

13.01 *Cost of the Work*

- A. *Purposes for Determination of Cost of the Work:* The term Cost of the Work means the sum of all costs necessary for the proper performance of the Work at issue, as further defined below. The provisions of this Paragraph 13.01 are used for two distinct purposes:
1. To determine Cost of the Work when Cost of the Work is a component of the Contract Price, under cost-plus-fee, time-and-materials, or other cost-based terms; or
 2. To determine the value of a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price. When the value of any such adjustment is determined on the basis of Cost of the Work, Contractor is entitled only to those additional or incremental costs required because of the change in the Work or because of the event giving rise to the adjustment.
- B. *Costs Included:* Except as otherwise may be agreed to in writing by Owner, costs included in the Cost of the Work shall be in amounts no higher than those prevailing in the locality of the Project, shall not include any of the costs itemized in Paragraph 13.01.C, and shall include only the following items:
1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, and vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by Owner.
 2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates, and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.
 3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, who will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the

Work and fee shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 13.01.

4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.
5. Supplemental costs including the following:
 - a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.
 - b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.
 - c. Rentals of all construction equipment and machinery, and the parts thereof, whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.
 - d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.
 - e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.
 - f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with Paragraph 6.05), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's fee.
 - g. The cost of utilities, fuel, and sanitary facilities at the Site.
 - h. Minor expenses such as communication service at the Site, express and courier services, and similar petty cash items in connection with the Work.
 - i. The costs of premiums for all bonds and insurance that Contractor is required by the Contract Documents to purchase and maintain.

- C. *Costs Excluded:* The term Cost of the Work shall not include any of the following items:
1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 13.01.B.1 or specifically covered by Paragraph 13.01.B.4. The payroll costs and other compensation excluded here are to be considered administrative costs covered by the Contractor's fee.
 2. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.
 3. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.
 4. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.
 5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraph 13.01.B.
- D. *Contractor's Fee:* When the Work as a whole is performed on the basis of cost-plus, Contractor's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 11.04.C.
- E. *Documentation:* Whenever the Cost of the Work for any purpose is to be determined pursuant to this Article 13, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

13.02 Allowances

- A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.
- B. *Cash Allowances:* Contractor agrees that:
1. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and
 2. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have

been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.

- C. *Contingency Allowance*: Contractor agrees that a contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.
- D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

13.03 *Unit Price Work*

- A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.
- B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Payments to Contractor for Unit Price Work will be based on actual quantities.
- C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.
- D. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, subject to the provisions of the following paragraph.
- E. Within 30 days of Engineer's written decision under the preceding paragraph, Contractor may submit a Change Proposal, or Owner may file a Claim, seeking an adjustment in the Contract Price if:
 - 1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement;
 - 2. there is no corresponding adjustment with respect to any other item of Work; and
 - 3. Contractor believes that it is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price, and the parties are unable to agree as to the amount of any such increase or decrease.

ARTICLE 14 – TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

14.01 *Access to Work*

- A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and authorities having jurisdiction will have access to the Site and the Work at reasonable times for their observation, inspection, and

testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's safety procedures and programs so that they may comply therewith as applicable.

14.02 *Tests, Inspections, and Approvals*

- A. Contractor shall give Engineer timely notice of readiness of the Work (or specific parts thereof) for all required inspections and tests, and shall cooperate with inspection and testing personnel to facilitate required inspections and tests.
- B. Owner shall retain and pay for the services of an independent inspector, testing laboratory, or other qualified individual or entity to perform all inspections and tests expressly required by the Contract Documents to be furnished and paid for by Owner, except that costs incurred in connection with tests or inspections of covered Work shall be governed by the provisions of Paragraph 14.05.
- C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.
- D. Contractor shall be responsible for arranging, obtaining, and paying for all inspections and tests required:
 - 1. by the Contract Documents, unless the Contract Documents expressly allocate responsibility for a specific inspection or test to Owner;
 - 2. to attain Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work;
 - 3. by manufacturers of equipment furnished under the Contract Documents;
 - 4. for testing, adjusting, and balancing of mechanical, electrical, and other equipment to be incorporated into the Work; and
 - 5. for acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work.

Such inspections and tests shall be performed by independent inspectors, testing laboratories, or other qualified individuals or entities acceptable to Owner and Engineer.

- E. If the Contract Documents require the Work (or part thereof) to be approved by Owner, Engineer, or another designated individual or entity, then Contractor shall assume full responsibility for arranging and obtaining such approvals.
- F. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation. Such uncovering shall be at Contractor's expense unless Contractor had given Engineer timely notice of Contractor's intention to cover the same and Engineer had not acted with reasonable promptness in response to such notice.

14.03 *Defective Work*

- A. *Contractor's Obligation:* It is Contractor's obligation to assure that the Work is not defective.
- B. *Engineer's Authority:* Engineer has the authority to determine whether Work is defective, and to reject defective Work.
- C. *Notice of Defects:* Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor.
- D. *Correction, or Removal and Replacement:* Promptly after receipt of written notice of defective Work, Contractor shall correct all such defective Work, whether or not fabricated, installed, or completed, or, if Engineer has rejected the defective Work, remove it from the Project and replace it with Work that is not defective.
- E. *Preservation of Warranties:* When correcting defective Work, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.
- F. *Costs and Damages:* In addition to its correction, removal, and replacement obligations with respect to defective Work, Contractor shall pay all claims, costs, losses, and damages arising out of or relating to defective Work, including but not limited to the cost of the inspection, testing, correction, removal, replacement, or reconstruction of such defective Work, fines levied against Owner by governmental authorities because the Work is defective, and the costs of repair or replacement of work of others resulting from defective Work. Prior to final payment, if Owner and Contractor are unable to agree as to the measure of such claims, costs, losses, and damages resulting from defective Work, then Owner may impose a reasonable set-off against payments due under Article 15.

14.04 *Acceptance of Defective Work*

- A. If, instead of requiring correction or removal and replacement of defective Work, Owner prefers to accept it, Owner may do so (subject, if such acceptance occurs prior to final payment, to Engineer's confirmation that such acceptance is in general accord with the design intent and applicable engineering principles, and will not endanger public safety). Contractor shall pay all claims, costs, losses, and damages attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness), and for the diminished value of the Work to the extent not otherwise paid by Contractor. If any such acceptance occurs prior to final payment, the necessary revisions in the Contract Documents with respect to the Work shall be incorporated in a Change Order. If the parties are unable to agree as to the decrease in the Contract Price, reflecting the diminished value of Work so accepted, then Owner may impose a reasonable set-off against payments due under Article 15. If the acceptance of defective Work occurs after final payment, Contractor shall pay an appropriate amount to Owner.

14.05 *Uncovering Work*

- A. Engineer has the authority to require special inspection or testing of the Work, whether or not the Work is fabricated, installed, or completed.

- B. If any Work is covered contrary to the written request of Engineer, then Contractor shall, if requested by Engineer, uncover such Work for Engineer's observation, and then replace the covering, all at Contractor's expense.
- C. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, then Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, and provide all necessary labor, material, and equipment.
 - 1. If it is found that the uncovered Work is defective, Contractor shall be responsible for all claims, costs, losses, and damages arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and pending Contractor's full discharge of this responsibility the Owner shall be entitled to impose a reasonable set-off against payments due under Article 15.
 - 2. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, then Contractor may submit a Change Proposal within 30 days of the determination that the Work is not defective.

14.06 *Owner May Stop the Work*

- A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, then Owner may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work shall not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

14.07 *Owner May Correct Defective Work*

- A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace rejected Work as required by Engineer, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, then Owner may, after seven days written notice to Contractor, correct or remedy any such deficiency.
- B. In exercising the rights and remedies under this Paragraph 14.07, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and

Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this paragraph.

- C. All claims, costs, losses, and damages incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 14.07 will be charged against Contractor as set-offs against payments due under Article 15. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.
- D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 14.07.

ARTICLE 15 – PAYMENTS TO CONTRACTOR; SET-OFFS; COMPLETION; CORRECTION PERIOD

15.01 *Progress Payments*

- A. *Basis for Progress Payments:* The Schedule of Values established as provided in Article 2 will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments on account of Unit Price Work will be based on the number of units completed during the pay period, as determined under the provisions of Paragraph 13.03. Progress payments for cost-based Work will be based on Cost of the Work completed by Contractor during the pay period.
- B. *Applications for Payments:*
 - 1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens, and evidence that the materials and equipment are covered by appropriate property insurance, a warehouse bond, or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.
 - 2. Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.
 - 3. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

C. *Review of Applications:*

1. Engineer will, within 10 days after receipt of each Application for Payment, including each resubmittal, either indicate in writing a recommendation of payment and present the Application to Owner, or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.
2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional, and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:
 - a. the Work has progressed to the point indicated;
 - b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 13.03, and any other qualifications stated in the recommendation); and
 - c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.
3. By recommending any such payment Engineer will not thereby be deemed to have represented that:
 - a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract; or
 - b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.
4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:
 - a. to supervise, direct, or control the Work, or
 - b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or
 - c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or
 - d. to make any examination to ascertain how or for what purposes Contractor has used the money paid on account of the Contract Price, or

- e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.
- 5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 15.01.C.2.
- 6. Engineer will recommend reductions in payment (set-offs) necessary in Engineer's opinion to protect Owner from loss because:
 - a. the Work is defective, requiring correction or replacement;
 - b. the Contract Price has been reduced by Change Orders;
 - c. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
 - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible; or
 - e. Engineer has actual knowledge of the occurrence of any of the events that would constitute a default by Contractor and therefore justify termination for cause under the Contract Documents.

D. *Payment Becomes Due:*

- 1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended (subject to any Owner set-offs) will become due, and when due will be paid by Owner to Contractor.

E. *Reductions in Payment by Owner:*

- 1. In addition to any reductions in payment (set-offs) recommended by Engineer, Owner is entitled to impose a set-off against payment based on any of the following:
 - a. claims have been made against Owner on account of Contractor's conduct in the performance or furnishing of the Work, or Owner has incurred costs, losses, or damages on account of Contractor's conduct in the performance or furnishing of the Work, including but not limited to claims, costs, losses, or damages from workplace injuries, adjacent property damage, non-compliance with Laws and Regulations, and patent infringement;
 - b. Contractor has failed to take reasonable and customary measures to avoid damage, delay, disruption, and interference with other work at or adjacent to the Site;
 - c. Contractor has failed to provide and maintain required bonds or insurance;
 - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible;
 - e. Owner has incurred extra charges or engineering costs related to submittal reviews, evaluations of proposed substitutes, tests and inspections, or return visits to manufacturing or assembly facilities;
 - f. the Work is defective, requiring correction or replacement;

- g. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
 - h. the Contract Price has been reduced by Change Orders;
 - i. an event that would constitute a default by Contractor and therefore justify a termination for cause has occurred;
 - j. liquidated damages have accrued as a result of Contractor's failure to achieve Milestones, Substantial Completion, or final completion of the Work;
 - k. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens;
 - l. there are other items entitling Owner to a set off against the amount recommended.
2. If Owner imposes any set-off against payment, whether based on its own knowledge or on the written recommendations of Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and the specific amount of the reduction, and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, if Contractor remedies the reasons for such action. The reduction imposed shall be binding on Contractor unless it duly submits a Change Proposal contesting the reduction.
 3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 15.01.C.1 and subject to interest as provided in the Agreement.

15.02 *Contractor's Warranty of Title*

- A. Contractor warrants and guarantees that title to all Work, materials, and equipment furnished under the Contract will pass to Owner free and clear of (1) all Liens and other title defects, and (2) all patent, licensing, copyright, or royalty obligations, no later than seven days after the time of payment by Owner.

15.03 *Substantial Completion*

- A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete and request that Engineer issue a certificate of Substantial Completion. Contractor shall at the same time submit to Owner and Engineer an initial draft of punch list items to be completed or corrected before final payment.
- B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.

- C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a preliminary certificate of Substantial Completion which shall fix the date of Substantial Completion. Engineer shall attach to the certificate a punch list of items to be completed or corrected before final payment. Owner shall have seven days after receipt of the preliminary certificate during which to make written objection to Engineer as to any provisions of the certificate or attached punch list. If, after considering the objections to the provisions of the preliminary certificate, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the preliminary certificate to Owner, notify Contractor in writing that the Work is not substantially complete, stating the reasons therefor. If Owner does not object to the provisions of the certificate, or if despite consideration of Owner's objections Engineer concludes that the Work is substantially complete, then Engineer will, within said 14 days, execute and deliver to Owner and Contractor a final certificate of Substantial Completion (with a revised punch list of items to be completed or corrected) reflecting such changes from the preliminary certificate as Engineer believes justified after consideration of any objections from Owner.
- D. At the time of receipt of the preliminary certificate of Substantial Completion, Owner and Contractor will confer regarding Owner's use or occupancy of the Work following Substantial Completion, review the builder's risk insurance policy with respect to the end of the builder's risk coverage, and confirm the transition to coverage of the Work under a permanent property insurance policy held by Owner. Unless Owner and Contractor agree otherwise in writing, Owner shall bear responsibility for security, operation, protection of the Work, property insurance, maintenance, heat, and utilities upon Owner's use or occupancy of the Work.
- E. After Substantial Completion the Contractor shall promptly begin work on the punch list of items to be completed or corrected prior to final payment. In appropriate cases Contractor may submit monthly Applications for Payment for completed punch list items, following the progress payment procedures set forth above.
- F. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the punch list.

15.04 *Partial Use or Occupancy*

- A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:
 - 1. At any time Owner may request in writing that Contractor permit Owner to use or occupy any such part of the Work that Owner believes to be substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 15.03.A through E for that part of the Work.

2. At any time Contractor may notify Owner and Engineer in writing that Contractor considers any such part of the Work substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.
3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 15.03 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.
4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 6.05 regarding builder's risk or other property insurance.

15.05 *Final Inspection*

- A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will promptly make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the Work, or agreed portion thereof, is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

15.06 *Final Payment*

A. *Application for Payment:*

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, annotated record documents (as provided in Paragraph 7.11), and other documents, Contractor may make application for final payment.
2. The final Application for Payment shall be accompanied (except as previously delivered) by:
 - a. all documentation called for in the Contract Documents;
 - b. consent of the surety, if any, to final payment;
 - c. satisfactory evidence that all title issues have been resolved such that title to all Work, materials, and equipment has passed to Owner free and clear of any Liens or other title defects, or will so pass upon final payment.
 - d. a list of all disputes that Contractor believes are unsettled; and
 - e. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of the Work, and of Liens filed in connection with the Work.
3. In lieu of the releases or waivers of Liens specified in Paragraph 15.06.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an

affidavit of Contractor that: (a) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (b) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien, or Owner at its option may issue joint checks payable to Contractor and specified Subcontractors and Suppliers.

B. *Engineer's Review of Application and Acceptance:*

1. If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract have been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of final payment and present the Application for Payment to Owner for payment. Such recommendation shall account for any set-offs against payment that are necessary in Engineer's opinion to protect Owner from loss for the reasons stated above with respect to progress payments. At the same time Engineer will also give written notice to Owner and Contractor that the Work is acceptable, subject to the provisions of Paragraph 15.07. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.

C. *Completion of Work:* The Work is complete (subject to surviving obligations) when it is ready for final payment as established by the Engineer's written recommendation of final payment.

D. *Payment Becomes Due:* Thirty days after the presentation to Owner of the final Application for Payment and accompanying documentation, the amount recommended by Engineer (less any further sum Owner is entitled to set off against Engineer's recommendation, including but not limited to set-offs for liquidated damages and set-offs allowed under the provisions above with respect to progress payments) will become due and shall be paid by Owner to Contractor.

15.07 *Waiver of Claims*

- A. The making of final payment will not constitute a waiver by Owner of claims or rights against Contractor. Owner expressly reserves claims and rights arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 15.05, from Contractor's failure to comply with the Contract Documents or the terms of any special guarantees specified therein, from outstanding Claims by Owner, or from Contractor's continuing obligations under the Contract Documents.
- B. The acceptance of final payment by Contractor will constitute a waiver by Contractor of all claims and rights against Owner other than those pending matters that have been duly submitted or appealed under the provisions of Article 17.

15.08 *Correction Period*

- A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents, or by any specific provision of the Contract Documents), any Work is found to be defective, or if the repair of any damages to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas used by Contractor as permitted by Laws and Regulations, is found to be defective, then Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:
 - 1. correct the defective repairs to the Site or such other adjacent areas;
 - 2. correct such defective Work;
 - 3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and
 - 4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others, or to other land or areas resulting therefrom.
- B. If Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others).
- C. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.
- D. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this paragraph, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.
- E. Contractor's obligations under this paragraph are in addition to all other obligations and warranties. The provisions of this paragraph shall not be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

ARTICLE 16 – SUSPENSION OF WORK AND TERMINATION

16.01 *Owner May Suspend Work*

- A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by written notice to Contractor and Engineer. Such notice will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be entitled to an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable

to any such suspension. Any Change Proposal seeking such adjustments shall be submitted no later than 30 days after the date fixed for resumption of Work.

16.02 Owner May Terminate for Cause

- A. The occurrence of any one or more of the following events will constitute a default by Contractor and justify termination for cause:
 - 1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the Progress Schedule);
 - 2. Failure of Contractor to perform or otherwise to comply with a material term of the Contract Documents;
 - 3. Contractor's disregard of Laws or Regulations of any public body having jurisdiction; or
 - 4. Contractor's repeated disregard of the authority of Owner or Engineer.
- B. If one or more of the events identified in Paragraph 16.02.A occurs, then after giving Contractor (and any surety) ten days written notice that Owner is considering a declaration that Contractor is in default and termination of the contract, Owner may proceed to:
 - 1. declare Contractor to be in default, and give Contractor (and any surety) notice that the Contract is terminated; and
 - 2. enforce the rights available to Owner under any applicable performance bond.
- C. Subject to the terms and operation of any applicable performance bond, if Owner has terminated the Contract for cause, Owner may exclude Contractor from the Site, take possession of the Work, incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere, and complete the Work as Owner may deem expedient.
- D. Owner may not proceed with termination of the Contract under Paragraph 16.02.B if Contractor within seven days of receipt of notice of intent to terminate begins to correct its failure to perform and proceeds diligently to cure such failure.
- E. If Owner proceeds as provided in Paragraph 16.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds the cost to complete the Work, including all related claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals) sustained by Owner, such excess will be paid to Contractor. If the cost to complete the Work including such related claims, costs, losses, and damages exceeds such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this paragraph, Owner shall not be required to obtain the lowest price for the Work performed.

- F. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue, or any rights or remedies of Owner against Contractor or any surety under any payment bond or performance bond. Any retention or payment of money due Contractor by Owner will not release Contractor from liability.
- G. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 6.01.A, the provisions of that bond shall govern over any inconsistent provisions of Paragraphs 16.02.B and 16.02.D.

16.03 *Owner May Terminate For Convenience*

- A. Upon seven days written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):
 - 1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;
 - 2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses; and
 - 3. other reasonable expenses directly attributable to termination, including costs incurred to prepare a termination for convenience cost proposal.
- B. Contractor shall not be paid on account of loss of anticipated overhead, profits, or revenue, or other economic loss arising out of or resulting from such termination.

16.04 *Contractor May Stop Work or Terminate*

- A. If, through no act or fault of Contractor, (1) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (2) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (3) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon seven days written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the contract and recover from Owner payment on the same terms as provided in Paragraph 16.03.
- B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, seven days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this paragraph are not intended to preclude Contractor from submitting a Change Proposal for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this paragraph.

ARTICLE 17 – FINAL RESOLUTION OF DISPUTES

17.01 *Methods and Procedures*

- A. *Disputes Subject to Final Resolution:* The following disputed matters are subject to final resolution under the provisions of this Article:
 - 1. A timely appeal of an approval in part and denial in part of a Claim, or of a denial in full; and
 - 2. Disputes between Owner and Contractor concerning the Work or obligations under the Contract Documents, and arising after final payment has been made.
- B. *Final Resolution of Disputes:* For any dispute subject to resolution under this Article, Owner or Contractor may:
 - 1. elect in writing to invoke the dispute resolution process provided for in the Supplementary Conditions; or
 - 2. agree with the other party to submit the dispute to another dispute resolution process; or
 - 3. if no dispute resolution process is provided for in the Supplementary Conditions or mutually agreed to, give written notice to the other party of the intent to submit the dispute to a court of competent jurisdiction.

ARTICLE 18 – MISCELLANEOUS

18.01 *Giving Notice*

- A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:
 - 1. delivered in person, by a commercial courier service or otherwise, to the individual or to a member of the firm or to an officer of the corporation for which it is intended; or
 - 2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the sender of the notice.

18.02 *Computation of Times*

- A. When any period of time is referred to in the Contract by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

18.03 *Cumulative Remedies*

- A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract. The provisions of this paragraph will be as effective as if repeated specifically in the Contract Documents in

connection with each particular duty, obligation, right, and remedy to which they apply.

18.04 *Limitation of Damages*

- A. With respect to any and all Change Proposals, Claims, disputes subject to final resolution, and other matters at issue, neither Owner nor Engineer, nor any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, shall be liable to Contractor for any claims, costs, losses, or damages sustained by Contractor on or in connection with any other project or anticipated project.

18.05 *No Waiver*

- A. A party's non-enforcement of any provision shall not constitute a waiver of that provision, nor shall it affect the enforceability of that provision or of the remainder of this Contract.

18.06 *Survival of Obligations*

- A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract, as well as all continuing obligations indicated in the Contract, will survive final payment, completion, and acceptance of the Work or termination or completion of the Contract or termination of the services of Contractor.

18.07 *Controlling Law*

- A. This Contract is to be governed by the law of the state in which the Project is located.

18.08 *Headings*

- A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

(NO TEXT FOR THIS PAGE)

SECTION 00 73 00

SUPPLEMENTARY CONDITIONS

These Supplementary Conditions amend or supplement the Standard General Conditions of the Construction Contract (ACEC/NSPE/ASCE) Document No. C-700, 2013 edition) and other provisions of the Contract Documents as indicated below. All provisions which are not so amended or supplemented remain in full force and effect.

- SC-1.01A.3 In paragraph 1.01A.3 of the General Conditions, add “and Resident Project Representative” after “Engineer”.
- SC-1.01A.7 In paragraph 1.01A.7 of the General Conditions, delete "advertisement or invitation to bid" and substitute "Notice to Bidders".
- SC-1.01A.9 In paragraph 1.01A.9 of the General Conditions, delete “Engineer” and substitute “Resident Project Representative”.
- SC-1.01A.10 In the first sentence of paragraph 1.01A.10 of the General Conditions, delete “Engineer” and substitute “Resident Project Representative” throughout the sentence. Also, delete “Engineer’s” and substitute “Resident Project Representative’s” throughout the sentence.
- SC-1.01A.20 Add the following to the end of paragraph 1.01A.20 of the General Conditions:
- The term Program Manager has the same meaning as the term Engineer. The Engineer's Consultants are:
- Ayres Associates, Inc.
CP Solutions, Inc.
GESTRA Engineering, Inc.
GRAEF-USA Inc.
Jacobs Engineering Group, Inc. (Formerly CH2M Hill Engineers, Inc.)
Kevin Richardson Consulting
Professional Services Industries, Inc.
Ramboll US Corporation (Formerly Ramboll Environ US Corporation)
TRC Environmental Corporation
- SC-1.01A.21 In paragraph 1.01A.21 of the General Conditions, delete “Engineer” and substitute “Resident Project Representative”.
- SC-1.01A.32 In paragraph 1.01A.32 of the General Conditions, delete “Engineer” and substitute “Owner” throughout the first sentence. Add the following sentence to the end of the paragraph:

The term Construction Manager has the same meaning as the term Resident Project Representative. The Resident Project Representative's Consultant is:

R.A. Smith, Inc.

SC-1.01A.40 In paragraph 1.01A.40 of the General Conditions, delete "Engineer" and substitute "Resident Project Representative".

SC-1.01A.48 In paragraph 1.01A.48 of the General Conditions, delete "Engineer" and substitute "Resident Project Representative".

SC-1.01A Immediately after paragraph 1.01A.48 of the General Conditions, add the following:

49. Correction Period - The time during which the Contractor must correct defective Work or remove defective Work from the site and replace it with non-defective Work, all at no cost to the Owner, pursuant to paragraph 15.08 of the General Conditions, as supplemented.

50. Final Completion – The date upon which Contractor has, in the opinion of Resident Project Representative, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, annotated record documents (as provided in Paragraph 7.11), Contractor may make application for final payment.

55. "Additional Insured", except where otherwise expressly defined, shall mean:

Waukesha Water Utility

Greeley and Hansen LLC

Ayres Associates, Inc.

Black & Veatch Corporation

CP Solutions, Inc.

GESTRA Engineering, Inc.

GRAEF-USA Inc.

Jacobs Engineering Group, Inc. (Formerly CH2M Hill Engineers, Inc.)

Kevin Richardson Consulting

Professional Services Industries, Inc.

R. A. Smith, Inc.

Ramboll US Corporation (Formerly Ramboll Environ US Corporation)
TRC Environmental Corporation

- SC-1.02B In the first and second sentence of paragraph 1.02B of the General Conditions, add “and Resident Project Representative” after “Engineer”.
- Delete the last sentence of paragraph 1.02B of the General Conditions.
- SC-1.02D In paragraph 1.02D.1.c of the General Conditions, delete “Engineer’s” and substitute “Resident Project Representative’s”.
- SC-2.02 Delete paragraphs 2.02A and 2.02B of the General Conditions in their entirety and substitute the following:
- A. After the Agreement has been executed, the Contractor will be furnished one complete set of printed contract documents and one copy in electronic portable document format (PDF).
- B. Contractor shall furnish each of its Subcontractors, Suppliers, Permitting Agencies, and others such copies of the Contract Documents as may be required for their Work. All copies of the Contract Documents shall be printed from the set furnished after execution of the Agreement.
- SC-2.03A In the first sentence of paragraph 2.03A of the General Conditions, add “and Resident Project Representative” after “Engineer”.
- SC-2.04A In paragraph 2.04A of the General Conditions, add “Resident Project Representative,” after “Engineer,”
- SC-2.05 In paragraph 2.05 of the General Conditions, add “and Resident Project Representative” after “Engineer” throughout the paragraph. Also, delete paragraph 2.05A.2 of the General Conditions in its entirety and substitute the following:
2. Contractor's schedule of shop drawing and sample submittals will be acceptable to Engineer and Resident Project Representative only if it provides a minimum of 30 days for reviewing and processing the submittals.
- SC-2.06A In paragraph 2.06A of the General Conditions, add “Resident Project Representative,” after “Engineer,”.
- SC-2.06B In paragraph 2.06B of the General Conditions, add “Resident Project Representative,” after “Engineer,”.

- SC-3.02A Delete paragraph 3.02A.2 of the General Conditions in its entirety and replace with the following:
2. No provision of any such standard specification, manual, reference standard, or code, or any instruction of a Supplier, shall be effective to change the duties or responsibilities of Owner, Contractor, Engineer, Resident Project Representative, or any of their subcontractors, consultants, agents, or employees, from those set forth in the part of the Contract Documents prepared by or for Engineer. No such provision or instruction shall be effective to assign to Owner, Engineer, Resident Project Representative, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the part of the Contract Documents prepared by or for Engineer.
- SC-3.03A In paragraph 3.03A.1 of the General Conditions, delete “Engineer” and substitute “Resident Project Representative” throughout the paragraph.
- In paragraph 3.03A.2 of the General Conditions, delete “Engineer” and substitute “Resident Project Representative” in the first sentence. In the second sentence, add “or Resident Project Representative” after “Engineer”.
- In paragraph 3.03A.3 of the General Conditions, delete “Owner or Engineer” and substitute “Owner, Engineer or Resident Project Representative”.
- SC-3.04A In paragraph 3.04A of the General Conditions, delete “Engineer” and substitute “Resident Project Representative” throughout the paragraph.
- SC-3.04B Delete paragraph 3.04B of the General Conditions in its entirety and substitute the following:
- B. Resident Project Representative will, with reasonable promptness, render a written clarification, interpretation, or decision on the issue submitted, or initiate an amendment or supplement to the Contract Documents. Resident Project Representative’s written clarification, interpretation, or decision will be final and binding on Contractor, unless it appeals by submitting a Change Proposal, and on Owner, unless it appeals by filing a Claim. Approval from Engineer is required prior to issuing clarifications and interpretations if the clarifications could affect the design intent or the Program requirements.
- SC-3.04C In paragraph 3.04C of the General Conditions, delete “Engineer” and substitute “Resident Project Representative” throughout the paragraph.

- SC-4.01A In paragraph 4.01A of the General Conditions, delete the last sentence in its entirety and substitute the following:
- In no event will the Contract Times commence to run later than the thirtieth day after the Effective Date of the Contract.
- SC-4.03A In the third sentence of paragraph 4.03A of the General Conditions, delete “Engineer” and substitute “Resident Project Representative”.
- SC-4.04A In paragraph 4.04A.1 of the General Conditions, add “and Resident Project Representative” after “Engineer”.
- SC-4.05A In the first sentence of paragraph 4.05A of the General Conditions, add “Resident Project Representative,” after “Engineer,”.
- SC-4.05H Add the following immediately after paragraph 4.05G:
- H. Notwithstanding anything contained in the Contract documents to the contrary, the Contractor shall not be entitled to recover any monetary damages it might sustain as a result of any delay caused the Contractor by any act of the Owner, the Engineer, the Resident Project Representative, any separate contractor employed by Owner, or any other cause whatsoever. The Contractor further agrees that it shall make no claim for compensation for such delay and will accept in full satisfaction for such delays any extensions of time which are granted to it by the Owner.
- SC-5.02A In paragraph 5.02A.2 of the General Conditions, delete “Owner and Engineer” and substitute “Owner, Engineer, and Resident Project Representative”. Also delete “Owner, Engineer,” and substitute “Owner, Engineer, Resident Project Representative,”.
- SC-5.02B Add the following to the end of paragraph 5.02B of the General Conditions:
- Contractor shall remove and dispose of waste materials, rubbish, and other debris on a weekly basis or when directed by the Owner or Resident Project Representative.
- SC-5.02E Immediately after paragraph 5.02D of the General Conditions, add the following:
- E. Use of the Owner's existing washrooms, lavatories, sanitary facilities or plumbing fixtures by the Contractor or any of its employees or Subcontractors will not be permitted.

- SC-5.03B In the third sentence of paragraph 5.03B of the General Conditions, delete “Owner or Engineer,” and substitute “Owner, Engineer or Resident Project Representative,”
- SC-5.03 Immediately after paragraph 5.03B.3 of the General Conditions, add the following:
- C. The following reports prepared by the Engineer’s Consultants of explorations and test of subsurface conditions at or adjacent to the site are known to Owner.
 - 1. 4-220 D11 Geotechnical Report, Contract Package 6, Return Flow Pipeline Stations 3000+00 to 4000+00
 - 2. Pothole Information
 - D. The following drawings of physical conditions relating to existing surface or subsurface structures at or adjacent to the site (except Underground Facilities) are known to Owner:
 - 1. ((Placeholder for WisDOT or Waukesha County reference drawings/report to be included here such as WisDOT Report XXXXX Section XXXX Page XX-XX.))
 - E. Contractor may examine copies of drawings identified in SC 5.03D. that were not included with the Bidding Documents at Waukesha Water Utility during regular business hours upon notification to the Procurement Division.
- SC-5.04A In paragraph of 5.04A of the General Conditions, delete "promptly" and substitute "within three days". Also, delete “Engineer” and substitute “Resident Project Representative”.
- SC-5.04B In paragraph 5.05B of the General Conditions, delete "promptly" and substitute "within three days". Also, delete “Engineer” and substitute “Resident Project Representative”. Also, delete “Engineer’s” and substitute “Resident Project Representative’s”.
- SC-5.04C In paragraph 5.05C of the General Conditions, delete “Engineer” and substitute “Resident Project Representative”. Also, delete “Engineer’s” and substitute “Resident Project Representative’s” throughout the paragraphs.
- SC-5.04D In paragraph 5.05D of the General Conditions, delete “Engineer” and substitute “Resident Project Representative”. Also, delete “Engineer’s” and substitute “Resident Project Representative’s” throughout the paragraphs.

SC-5.06A Immediately after paragraph 5.06A.2 of the General Conditions, add the following:

2. The following reports prepared by the Engineer's Consultants of explorations and test of subsurface conditions at or adjacent to the site are known to Owner.

a. 4-230 D5 Phase II Environmental Site Assessment Report – Site 3.29/3.30 – 7521 & 7520 West Ryan Road, Franklin, Wisconsin

SC-5.06B In the third sentence of paragraph 5.06B, delete "Owner or Engineer," and substitute "Owner, Engineer, or Resident Project Representative,"

SC-5.06I In the first sentence of paragraph 5.06I of the General Conditions, delete "Subcontractors, and Engineer," and substitute "Subcontractors, Engineer, and Resident Project Representative,".

SC-5.06J In the first sentence of paragraph 5.06J of the General Conditions, delete "Owner and Engineer," and substitute "Owner, Engineer, and Resident Project Representative,".

SC-6.01D In paragraph 6.01D of the General Conditions, delete "Engineer" and substitute "Resident Project Representative".

SC-6.03G In the first sentence of paragraph 6.03G of the General Conditions, delete "Owner and Engineer," and substitute "Owner, Engineer, and Resident Project Representative,".

SC-6.03I In the second sentence of paragraph 6.03I.3 of the General Conditions, add "Resident Project Representative," after "Engineer,".

SC-6.03K Immediately after Paragraph 6.03J of the General Conditions, add the following:

K. The limits of liability for the insurance required by Paragraph 6.03 of the General Conditions shall provide coverage for not less than the following amounts or greater where required by Laws and Regulations:

1. Workers' Compensation, and related coverages under Paragraphs 6.03.A.1 and A.2 of the General Conditions:

State: Statutory

Federal, if applicable (e.g., Longshoreman's): Statutory

Employer's Liability:

	Bodily injury, each accident	\$ 1,000,000
	Bodily injury by disease, each employee	\$ 1,000,000
	Bodily injury/disease aggregate	\$ 1,000,000
2.	Contractor's Commercial General Liability under Paragraphs 6.03.B and 6.03.C of the General Conditions:	
	General Aggregate (Except Products – Completed Operations)	\$ 2,000,000
	Products - Completed Operations Aggregate	\$ 2,000,000
	Personal and Advertising Injury (Per Person/Organization)	\$ 1,000,000
	Each Occurrence (Bodily Injury and Property Damage)	\$ 2,000,000
	Property Damage Liability insurance will provide Explosion, Collapse, and Underground coverage where applicable.	
3.	Automobile Liability under Paragraph 6.03.D. of the General Conditions:	
	Bodily Injury:	
	Each person	\$ 1,000,000
	Each accident	\$ 1,000,000
	Property Damage:	
	Each accident	\$ 1,000,000
	[or]	
	Combined Single Limit (Bodily Injury and Property Damage):	
	Each accident	\$ 1,000,000
4.	Excess or Umbrella Liability:	
	General Aggregate	\$ 10,000,000
	Per Occurrence	\$ 10,000,000
	Maximum Self-retention Aggregate	\$ 10,000

5. Additional Insureds: In addition to Owner and Engineer, include additional insureds as defined in Supplementary Conditions 1.01.

- L. In addition, sub-contractors and any other individual working in the performance of this Contract shall be required to provide insurance coverage in the same form and amounts as the Contractor. The Contractor will be responsible for providing the sub-contractor/other individual's current Certificate of Insurance for a period of one year following the date of completion of this contract.

SC-6.04A Delete paragraphs 6.04A and 6.04B of the General Conditions in their entirety and insert the following in its place:

- A. Contractor shall purchase and maintain until the date of final acceptance, Owners and Contractor's Protective Liability Insurance to protect Owner, including its employees, officers, and agents against claims which may arise from the operations of the Contractor, or his subcontractors. The coverage shall be for not less than the following amounts or greater where required by law or regulation:

Limits per Occurrence - Bodily Injury/Property Damage	\$ 1,000,000
Limits per Person/Organization - Personal/Advertising Injury	\$ 1,000,000
Aggregate Limit per Policy Year - Products/Completed Operations	\$ 3,000,000
General Aggregate Limit per Policy Year except Products/Completed Operations	\$ 3,000,000

This insurance shall also cover the Engineer, Engineer's Consultants, Resident Project Representative, or such other engineer or engineers as may act under the Contract, against similar claims.

SC-6.05A Immediately after paragraph 6.05A.1 of the General Conditions, add the following:

- a. In addition to the Owner, Contractor, and all Subcontractors, include additional insureds as defined in Supplementary Conditions 1.01.

SC-6.06A In paragraph 6.06A of the General Conditions, add "or Resident Project Representative" after "Engineer".

SC-6.06B In paragraph 6.06B of the General Conditions, delete "and Engineer," and substitute "Engineer, and Resident Project Representative,".

- SC-6.06C In paragraph 6.06C of the General Conditions, delete “Engineer,” and substitute “Engineer, Resident Project Representative,”.
- SC-6.06D In paragraph 6.06D of the General Conditions, add “or Resident Project Representative” after “Engineer”.
- SC-7.01B In paragraph 7.01B of the General Conditions, delete “Engineer” and substitute “Resident Project Representative”. Also, at the end of 7.01B, add "The resident superintendent shall be fluent in English."
- SC-7.02B Add the following to the end of paragraph 7.02B of the General Conditions:
1. Work Hours: Perform work between 7:00 a.m. and 7:00 p.m. Mondays through Fridays only. Emergency work may be performed anytime without the Owner's written consent required in paragraph 7.02B.
 2. Work After Hours: Night work may be established by Contractor as regular procedure with written consent of Owner. Such consent, however, may be revoked at any time by Owner if Contractor fails to maintain adequate equipment and supervision for proper prosecution and control of night work.
 3. Engineering and Construction Observation Charges: The Contractor shall pay for additional engineering and construction observation charges required during irregular hours which may be authorized under the provisions of paragraph SC-7.02.B.2. Such additional costs shall be subsidiary obligation of the Contractor and no extra payment shall be made by the Owner on account of such Work.
 3. Legal Holidays: Legal holidays observed by Owner consist of New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Day after Thanksgiving, Christmas Eve Day, Christmas Day, and New Year's Eve Day.
- SC-7.06D Immediately after paragraph 7.06D of the General Conditions, add the following:
1. Within 15 days after the effective date of the Agreement, Contractor shall submit to Resident Project Representative for review a complete list in duplicate of the names of proposed manufacturers, materialmen, suppliers and subcontractors. Obtain approval of this list by Owner prior to submission of any shop drawings or product data.
- SC-7.06H In paragraph 7.06H of the General Conditions, delete “Engineer” and substitute “Resident Project Representative”.

- SC-7.06I In paragraph 7.06I of the General Conditions, delete “Engineer” and substitute “Resident Project Representative”.
- SC-7.06K In paragraph 7.06K of the General Conditions, delete “Owner or Engineer” and substitute “Owner, Engineer, or Resident Project Representative”.
- SC-7.06M In paragraph 7.06M of the General Conditions, delete “Engineer” and substitute “Resident Project Representative”.
- SC-7.06O In paragraphs 7.06O.1 and 7.06O.2, delete “Owner or Engineer” and substitute “Owner, Engineer, or Resident Project Representative”.
- SC-7.07A In the second sentence of paragraph 7.07A of the General Conditions, delete “Owner or Engineer” and substitute “Owner, Engineer, or Resident Project Representative”.
- SC-7.07C In the first sentence of paragraph 7.07C of the General Conditions, delete “Owner and Engineer” and substitute “Owner, Engineer, and Resident Project Representative”.
- SC-7.08A In paragraph 7.08A of the General Conditions, delete the last sentence in its entirety.
- SC-7.09 Add the following language at the end of paragraph 7.09 of the General Conditions:
- Materials and equipment that are purchased for this project that will become the property of the OWNER are exempt from sales tax. OWNER will furnish the sales tax exemption number to the successful bidder at the start of work.
- SC-7.10A In the second sentence of paragraph 7.10A of the General Conditions, delete “Owner nor Engineer” and substitute “Owner, Engineer, nor Resident Project Representative”.
- SC-7.10B In the first sentence of paragraph 7.10B of the General Conditions, delete “Owner and Engineer” and substitute “Owner, Engineer, and Resident Project Representative”.
- SC-7.11A In paragraph 7.11A of the General Conditions, delete “Engineer” and substitute “Resident Project Representative” throughout the paragraph.
- SC-7.12A Immediately after paragraph 7.12A.3 of the General Conditions, add the following:
4. No Duty. The duty of the Owner, Engineer, and the Resident Project Representative to observe Contractor's performance does not include any review of the adequacy of Contractor's safety measures in, on, or

near the Work site or sites. Engineer or Resident Project Representative has not been retained or compensated to provide design and construction review services relating to Contractor's safety precautions required for Contractor to perform the Work.

5. No Liability. Neither the Owner, nor any official or employee of the Owner, nor the Engineer, nor the Resident Project Representative, or any authorized assistant or agent of any of them, shall be responsible for safety precautions and programs in connection with the Work or any liability arising therefrom.
6. Protection of Operations. The Contractor shall take all necessary precautions so as to cause no unauthorized interruption in any essential part of system operations. System operations must be maintained at the same level during construction as existed prior to construction.

Shutdowns for construction Work shall be scheduled in advance (minimum 14 days advance notice), carefully planned, and shall be carried out in close cooperation with the Owner's officials.

The Owner's officials shall retain the authority to require the cessation of construction activities and return to service of any component of the system should the need arise.

7. Special Requirements for Structural Design. All structures to be provided by the Contractor, (except those structures for which details are shown on the Drawings), that require structural design shall be designed and constructed under the observation of a structural engineer, registered in the State of Wisconsin, acting for and retained by the Contractor. Drawings for such structures shall be prepared and sealed by the structural engineer and submitted to the Resident Project Representative for record. A clear outline of the proposed construction procedure shall be shown on the drawings. A statement in writing by the structural engineer attesting that said engineer has visited the Work site or sites, that the design does satisfy the conditions as actually encountered and that the actual construction conforms to the drawings and calculations, as submitted, must be submitted to the Resident Project Representative before the Work related to such structures will be considered complete.

All temporary structures, including sheeting and bracing for excavations, that affect the safety of the public, workmen, inspectors, or Owner's or Resident Project Representative's personnel shall be regarded as structures that require structural design.

SC-7.12D In paragraph 7.12D of the General Conditions, delete "Owner and Engineer" and substitute "Owner, Engineer, and Resident Project Representative". Also,

delete “Owner’s and Engineer’s” and substitute “Owner’s, Engineer’s, and Resident Project Representative’s”.

SC-7.12E In paragraph 7.12E of the General Conditions, delete “Owner or Engineer” and substitute “Owner, Engineer, or Resident Project Representative”.

SC-7.12F In paragraph 7.12F of the General Conditions, delete “Engineer” and substitute “Resident Project Representative”.

SC-7.15A In paragraph 7.15A of the General Conditions, delete “Engineer” and substitute “Resident Project Representative” throughout the paragraph.

SC-7.16D In the first sentence of paragraph 7.16D.1 of the General Conditions, delete “acceptable to Engineer” and substitute “acceptable to Engineer and Resident Project Representative”.

In the last sentence of paragraph 7.16D.4 of the General Conditions, delete “Engineer” and substitute “Resident Project Representative”.

Add a new paragraph immediately after paragraph 7.16.D.8 of the General Conditions which is to read as follows:

9. ENGINEER, generally, will process shop drawings and return them to the CONTRACTOR in not more than 15 working days from day of receipt. If the nature of the shop drawing is such that the review cannot be completed in 15 working days, ENGINEER will advise the CONTRACTOR giving a schedule for performing the review.

SC-7.17A In the second sentence of paragraph 7.17A of the General Conditions, delete “Engineer and its” and substitute “Engineer, Resident Project Representative and their”.

SC-7.17C In paragraph of 7.17C.1 of the General Conditions, add “or Resident Project Representative” after “Engineer”.

In paragraph of 7.17C.2 of the General Conditions, add “or Resident Project Representative” after “Engineer”.

In paragraph of 7.17C.6 of the General Conditions, delete “Engineer” and substitute “Resident Project Representative”.

SC-7.18A In paragraph 7.18A of the General Conditions, delete “Owner and Engineer,” and substitute “Owner, Engineer, and Resident Project Representative,”.

SC-7.18B In paragraph 7.18B of the General Conditions, delete “Owner or Engineer” and substitute “Owner, Engineer, or Resident Project Representative”.

- SC-7.18C In paragraph 7.18C of the General Conditions, delete “Engineer and Engineer’s,” and substitute “Engineer, Resident Project Representative, and Engineer’s or Resident Project Representative’s”.
- SC-8.01C In the last sentence of paragraph 8.01C of the General Conditions, delete “Engineer” and substitute “Resident Project Representative”.
- SC-8.01D In the first sentence of paragraph 8.01D of the General Conditions, delete “Engineer” and substitute “Resident Project Representative.”
- SC-8.03D In paragraph 8.03D of the General Conditions, delete “Owner, or Engineer” and substitute “Owner, Engineer, or Resident Project Representative”. Also, delete “Owner and Engineer” and substitute “Owner, Engineer, and Resident Project Representative”.
- SC-9.01A In paragraph 9.01A of the General Conditions, delete “Engineer” and substitute “Resident Project Representative.”
- SC-9.02 In paragraph 9.02 of the General Conditions, delete “Replacement of Engineer” and substitute “Replacement of Engineer and Resident Project Representative”.

Immediately after paragraph 9.02A of the General Conditions, add the following:

- B. Owner may at its discretion appoint an onsite project representative to replace Resident Project Representative, provided Contractor makes no reasonable objection to the replacement onsite project representative. The replacement onsite project representative’s status under the Contract Documents shall be that of the former Resident Project Representative.

- SC-9.13 Immediately after paragraph 9.12B of the General Conditions, add the following:

9.13B. Owner will furnish a Resident Project Representative to represent Owner at the Site and assist Owner in observing the progress and quality of the Work. The Resident Project Representative is not Engineer’s consultant, agent, or employee. Resident Project Representative will be Black & Veatch Corporation. The authority and responsibilities of Resident Project Representative are as follows:

1. General: Resident Project Representative's dealings in matters pertaining to the Work in general shall be with Owner, Engineer, and Contractor. Resident Project Representative's dealings with Subcontractors shall only be through or with the full knowledge and approval of Contractor.

2. Schedules: Review the progress schedule, schedule of Shop Drawing and Sample submittals, and Schedule of Values prepared by Contractor.
3. Conferences and Meetings: Coordinate and administer progress meetings and other job conferences as required. Attend meetings with Contractor, such as preconstruction conferences, progress meetings, job conferences, and other Project-related meetings, and prepare and circulate copies of minutes and maintain the various summaries of meeting content thereof.
4. Liaison:
 - a. Serve as Owner's liaison with Contractor. Working principally through Contractor's authorized representative or designee, assist in providing information regarding the provisions and intent of the Contract Documents in coordination with the Engineer.
 - b. Serving as Owner's liaison with Contractor when Contractor's operations affect Owner's on-Site operations.
 - c. Assist in obtaining from Owner additional details or information, when required for proper execution of the Work.
5. Interpretation of Contract Documents: Respond to Contractor when clarifications and interpretations of the Contract Documents are needed. Obtain approval by Engineer prior to responding to any clarifications or explanations that could affect the design intent or Program requirements.
6. Shop Drawings and Samples:
 - a. Assist Engineer with obtaining a Shop Drawing submittal schedule and Shop Drawings from Contractor.
 - b. Advise Engineer and Contractor of the commencement of any portion of the Work requiring a Shop Drawing or Sample submittal for which Resident Project Representative believes that the submittal has not been approved by Engineer.
7. Modifications: Consider and evaluate Contractor's suggestions for modifications in Drawings or Specifications. Obtain approval by Engineer prior to accepting any modifications that could affect the design intent. The Resident Project Representative shall transmit to the Contractor the written clarification and interpretations of the drawings and specifications not affecting time and/or contract price. If

required, the Engineer shall furnish within a reasonable time, and in writing, additional instructions by means of drawings or otherwise as required for the proper execution of the work.

8. Review of Work and Rejection of Defective Work:
 - a. Conduct on-site observations of Contractor's work in progress and determine if the Work is in general proceeding in accordance with the Contract Documents.
 - b. Report to Owner and Contractor whenever Resident Project Representative believes that any part of Contractor's work in progress is defective, will not produce a completed Project that conforms generally to the Contract Documents, or will imperil the integrity of the design concept of the completed Project as a functioning whole as indicated in the Contract Documents, or has been damaged, or does not meet the requirements of any inspection, test or approval required to be made; and advise Engineer and Owner as to when, that part of work in progress that Resident Project Representative believes should be corrected or rejected or should be uncovered for observation, or requires special testing, inspection or approval.
9. Inspections, Tests, and System Start-ups:
 - a. Coordinate with Contractor and Engineer's testing agency for materials testing.
 - b. Observe, record, and report to Owner and Engineer, appropriate details relative to the procedures and systems start-ups.
10. Records:
 - a. Prepare a daily report or keep a diary or log book, recording Contractor's hours on the Site, Subcontractors present at the Site, weather conditions, data logs relative to questions of Change Orders, Field Orders, Work Change Directives, or changed conditions, Site visitors, deliveries of equipment or materials, daily activities, decisions, meeting summary, observations in general, and specific observations in more detail as in the case of observing test procedures; and send copies to Engineer.
 - b. Record names, addresses, fax numbers, e-mail addresses, web site locations, and telephone numbers of all Contractors, Subcontractors, and major Suppliers of materials and equipment.

- c. Maintain records for use in preparing Project documentation.
- 11. Reports:
 - a. Furnish to Owner and Engineer periodic reports as required of progress of the Work and of Contractor's compliance with the Progress Schedule.
 - b. Draft and recommend to Owner proposed Change Orders, Work Change Directives, and Field Orders. Obtain backup material from Contractor.
 - c. Immediately notify Owner and Engineer of the occurrence of any Site accidents, emergencies, acts of God endangering the Work, force majeure or delay events, damage to property by fire or other causes, or the discovery of any Constituent of Concern or Hazardous Environmental Condition.
- 12. Payment Requests: Review applications for payment with Contractor for compliance with the established procedure for their submission and forward with recommendations to Owner, noting particularly the relationship of the payment requested to the Schedule of Values, Work completed, and materials and equipment delivered at the Site but not incorporated in the Work.
- 13. Certificates, Operation and Maintenance Manuals: Assist Engineer, if requested, in verifying that materials and equipment certificates, operation and maintenance manuals and other data required by the Contract Documents to be assembled and furnished by Contractor are complete and applicable to the items actually installed and in accordance with the Contract Documents, and have these documents delivered to Engineer for review and forward to Owner prior to payment for that part of the Work.
- 14. Completion:
 - a. Assist in the determination of Substantial Completion and the preparation of a punch list of items to be completed or corrected.
 - b. Conduct pre-final and final visit to the Site to determine completion of the Work, in the company of Owner, Engineer, and Contractor, and prepare a final punch list of items to be completed and deficiencies to be remedied.
 - c. Observe whether all items on the final list have been completed or corrected and make recommendations to

Owner and Engineer concerning acceptance and issuance of the notice of acceptability of the work.

- C. The Resident Project Representative shall not:
1. Authorize any deviation from the Contract Documents or substitution of materials or equipment (including “or-equal” items).
 2. Exceed limitations of Resident Project Representative’s authority as set forth in the Contract Documents.
 3. Undertake any of the responsibilities of Contractor, Subcontractors, or Suppliers.
 4. Advise on, issue directions relative to, or assume control over any aspect of the means, methods, techniques, sequences or procedures of Contractor’s work.
 5. Advise on, issue directions regarding, or assume control over security or safety practices, precautions, and programs in connection with the activities or operations of Owner or Contractor.
 6. Participate in specialized field or laboratory tests or inspections conducted off-site by others except as specifically authorized by Owner and Engineer.
 7. Accept Shop Drawing or Sample submittals from anyone other than Contractor.
 8. Authorize Owner to occupy the Project in whole or in part.

SC-Article 10 In the title of Article 10 of the General Conditions, delete “ENGINEER’S STATUS DURING CONSTRUCTION” and substitute “ENGINEER’S AND RESIDENT PROJECT REPRESENTATIVE’S STATUS DURING CONSTRUCTION”.

SC-10.01A In paragraph 10.01A. of the General Conditions, delete “Engineer” and substitute “Resident Project Representative” throughout the paragraph.

SC-10.02A Delete paragraph 10.02A. of the General Conditions in its entirety and substitute the following:

Engineer and Resident Project Representative will make visits to the Site at intervals appropriate to the various stages of construction as Resident Project Representative deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of Contractor’s executed Work. Based on information obtained during such visits and observations, Resident Project Representative, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Resident Project Representative

or Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Resident Project Representative's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Resident Project Representative will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.

SC-10.02B In paragraph 10.01B of the General Conditions, delete "Engineer" and substitute "Resident Project Representative". Also, delete "Engineer's" and substitute "Resident Project Representative's" throughout the paragraph.

SC-10.03 Immediately after paragraph 9.02A of the General Conditions, add the following:

B. On this project, by agreement with the Owner, Engineer will not furnish a Resident Project Representative to represent Engineer at the Site or assist Engineer in observing the progress and quality of the Work.

SC-10.04A In paragraph 10.04A of the General Conditions, delete "Engineer" and substitute "Resident Project Representative".

SC-10.05C In paragraph 10.05C of the General Conditions, add "and Resident Project Representative's" after "Engineer's".

SC-10.05D In paragraph 10.05D of the General Conditions, delete "Engineer's" and substitute "Resident Project Representative's".

SC-10.06A In paragraph 10.06A of the General Conditions, delete "Engineer" and substitute "Resident Project Representative".

SC-10.07A In paragraph 10.07A of the General Conditions, delete "Engineer" and substitute "Resident Project Representative" throughout the paragraph.

SC-10.08 In the title of 10.08 of the General Conditions, delete "ENGINEER'S" and substitute "ENGINEER'S AND RESIDENT PROJECT REPRESENTATIVE'S".

Delete paragraphs 10.08A, 10.08B, 10.08C, 10.08D and 10.08E of the General Conditions in their entirety and substitute the following:

A. Neither Engineer's or Resident Project Representative's authority or responsibility under this Article 10, or under any other provision of the Contract, or any decision made by Engineer or Resident Project Representative in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer or Resident Project Representative, shall create, impose, or give rise to any duty in contract,

tort, or otherwise owed by Engineer or Resident Project Representative to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

- B. Engineer and Resident Project Representative will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer and Resident Project Representative will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.
- C. Engineer and Resident Project Representative will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.
- D. Resident Project Representative's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Paragraph 15.06.A will only be to determine generally that their content complies with the requirements of, and, in the case of certificates of inspections, tests, and approvals, that the results certified indicate compliance with the Contract Documents.

SC-10.09A Delete paragraph 10.09A of the General Conditions in its entirety and substitute the following:

- A. While at the Site, Engineer's and Resident Project Representative's employees and representatives will comply with the specific applicable requirements of Owner's and Contractor's safety programs of which Engineer and Resident Project Representative have been informed.

SC-11.01A In paragraph 11.01A.1.b of the General Conditions, add "and Resident Project Representative" after "Engineer".

In the first sentence of paragraph 11.01A.3 of the General Conditions, delete "Engineer" and substitute "Resident Project Representative."

SC-11.02A In the second sentence of paragraph 11.02A of the General Conditions, add "and Resident Project Representative's" after "Engineer's".

SC-11.06A In paragraph 11.06A of the General Conditions, delete the first sentence and substitute the following:

Contractor shall submit a Change Proposal to Resident Project Representative to request an adjustment in the Contract Times or Contract Price; appeal an initial decision by Engineer or Resident Project Representative concerning the requirements of the Contract Documents or relating to the acceptability of the Work under the Contract Documents; contest a set-off against payment due; or seek other relief under the Contract.

In the first and second sentence of paragraph 11.06A.1 of the General Conditions, delete “Engineer” and substitute “Resident Project Representative”.

In the last sentence of paragraph 11.06A.1 of the General Conditions, add “or Resident Project Representative” after “Engineer”.

Delete paragraph 11.06A.2 of the General Conditions in its entirety and substitute the following:

Engineer’s and Resident Project Representative’s Action: Engineer or Resident Project Representative will review each Change Proposal, and within 30 days after receipt of the Contractor’s supporting data, either deny the Change Proposal in whole, approve it in whole, or deny it in part and approve it in part. Such actions shall be in writing, with a copy provided to Owner and Contractor. If Engineer or Resident Project Representative does not take action on the Change Proposal within 45 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of Engineer or Resident Project Representative’s inaction the Change Proposal is deemed denied, thereby commencing the time for appeal of the denial under Article 12.

In paragraph 11.06A.3 of the General Conditions, add “and Resident Project Representative’s” after “Engineer’s”.

SC-11.06B In paragraph 11.06B of the General Conditions, delete “Engineer” and substitute “Resident Project Representative.”

SC-12.01A In paragraph 12.01A.1 of the General Conditions, add “and Resident Project Representative’s” after “Engineer’s”.

In paragraph 12.01A.3 of the General Conditions, add “and Resident Project Representative” after “Engineer”.

SC-12.01B In the second sentence of paragraph 12.01B of the General Conditions, delete “Engineer” and substitute “Resident Project Representative.”

SC-12.01C In the last sentence of paragraph 12.01C of the General Conditions, delete “Engineer” and substitute “Resident Project Representative.”

- SC-13.01B In the second sentence of paragraph 13.01B.3 and the first sentence of paragraph 13.01B.5.c of the General Conditions, delete “Engineer” and substitute “Resident Project Representative”.
- SC-13.01E In paragraph 13.01E of the General Conditions, delete “Engineer” and substitute “Resident Project Representative”.
- SC-13.02A In paragraph 13.01A of the General Conditions, delete “Engineer” and substitute “Resident Project Representative”.
- SC-13.02D In paragraph 13.01D of the General Conditions, delete “Engineer” and substitute “Resident Project Representative”.
- SC-13.03D In paragraph 13.03D of the General Conditions, delete “Engineer” and substitute “Resident Project Representative”. Also, delete “Engineer’s” and substitute “Resident Project Representative’s”.
- SC-13.03E In paragraph 13.03E of the General Conditions, delete the paragraph in its entirety and substitute the following in its place.

E. The unit price of an item of Unit Price Work shall be subject to re-evaluation and adjustment under the following conditions:

1. If the total cost of a particular item of Unit Price Work amounts to 10 percent or more of the Contract Price and the variation in the quantity of that particular Contract Item or sum of sub-Contract Items of Unit Price Work performed by Contractor differs by more than 25 percent from the estimated quantity of such item indicated in the Agreement; and
2. If there is no corresponding adjustment with respect to any other item of Work; and
3. If CONTRACTOR believes that CONTRACTOR has incurred additional expense as a result thereof; or if OWNER believes that the quantity variation entitles OWNER to an adjustment in the unit price, either OWNER or CONTRACTOR may make a claim for an adjustment in the Contract Price in accordance with Paragraph 12.01B if the parties are unable to agree as to the effect of any such variations in the quantity of Unit Price Work performed.

- SC-14.01A In paragraph 14.01A of the General Conditions, add “Resident Project Representative,” after “Engineer,”.
- SC-14.02A In paragraph 14.02A of the General Conditions, delete “Engineer” and substitute “Resident Project Representative”.

- SC-14.02D In paragraph 14.02D of the General Conditions, delete “Owner’s and Engineer’s” and substitute “Owner’s, Engineer’s, and Resident Project Representative’s”. Also, delete “Owner and Engineer” and substitute “Owner, Engineer, and Resident Project Representative”.
- SC-14.02E In paragraph 14.02E of the General Conditions, add “Resident Project Representative,” after “Engineer,”.
- SC-14.02F In paragraph 14.02F of the General Conditions, delete “Engineer” and substitute “Resident Project Representative” throughout the paragraph.
- SC-14.03B In paragraph 14.03B of the General Conditions, delete “Engineer” and substitute “Resident Project Representative”.
- SC-14.03C In paragraph 14.03C of the General Conditions, delete “Engineer” and substitute “Resident Project Representative”.
- SC-14.03D In paragraph 14.03D of the General Conditions, delete “Engineer” and substitute “Resident Project Representative”.
- SC-14.05A In paragraph 14.05A of the General Conditions, delete “Engineer” and substitute “Resident Project Representative”.
- SC-14.05B In paragraph 14.05B of the General Conditions, delete “Engineer” and substitute “Resident Project Representative” throughout the paragraph. Also, delete “Engineer’s” and substitute “Resident Project Representative’s”.
- SC-14.05C In paragraph 14.05C of the General Conditions, delete “Engineer” and substitute “Resident Project Representative” throughout the paragraph. Also, delete “Engineer’s” and substitute “Resident Project Representative’s”.
- SC-14.07.A In paragraph 14.07A of the General Conditions, delete “Engineer” and substitute “Resident Project Representative” throughout the paragraph.
- SC-14.07.B In the third sentence of paragraph 14.07.B of the General Conditions, delete “and Engineer and Engineer’s consultants” and substitute “Engineer and Engineer’s consultants, and Resident Project Representative”.
- SC-15.01A In the first sentence of paragraph 15.01A of the General Conditions, delete “Engineer” and substitute “Resident Project Representative”.
- SC-15.01B In paragraph 15.01B.1 of the General Conditions, delete “Engineer” and substitute “Resident Project Representative”.

Immediately after paragraph 15.01B.3 of the General Conditions, add the following:

4. Applications for payment shall be in accordance with Section 01 29 00.
- SC-15.01C In paragraphs 15.01C.1, 15.01C.2, 15.01C.3, 15.01C.4, 15.01C.5 and 15.01C.6 of the General Conditions, delete “Engineer” and substitute “Resident Project Representative” throughout the paragraphs. Also, delete “Engineer’s” and substitute “Resident Project Representative’s” throughout the paragraphs.
- SC-15.01D Delete paragraph 15.01.D of the General Conditions and substitute the following:
1. (TO BE DISCUSSED WITH WWU) Thirty days after presentation of the Application for Payment to Owner with Resident Project Representative's recommendation, the amount recommended will (subject to any Owner set-offs) will become due, and will be paid by Owner to Contractor.
- SC-15.01E In paragraphs 15.01E.1 and 15.01E.2 of the General Conditions, delete “Engineer” and substitute “Resident Project Representative” throughout the paragraphs.
- SC-15.03A Delete paragraph 15.03A of the General Conditions and substitute the following:
- When Contractor considers the entire Work ready for its intended use, Contractor shall notify Owner and Resident Project Representative in writing that the entire Work is substantially complete and request that Resident Project Representative issue a certificate of Substantial Completion. Contractor shall at the same time submit to Owner and Resident Project Representative an initial draft of punch list items to be completed or corrected before final payment.
- SC-15.03B In paragraph 15.03B of the General Conditions, delete “Engineer” and substitute “Resident Project Representative” throughout the paragraph.
- SC-15.03C In paragraph 15.03C of the General Conditions, delete “Engineer” and substitute “Resident Project Representative” throughout the paragraph.
- SC-15.04A In paragraphs 15.04A, 15.04A.1, 15.04A.2, and 15.04A.3 of the General Conditions, delete “Engineer” and substitute “Resident Project Representative” throughout the paragraphs.
- SC-15.05A In the first sentence of paragraph 15.05A of the General Conditions, delete “Engineer” and substitute “Resident Project Representative”.
- SC-15.06A In paragraph 15.06A.1 of the General Conditions, delete “Engineer” and substitute “Resident Project Representative”.

- SC-15.06B In the title of 15.06B of the General Conditions, delete “Engineer’s” and substitute “Resident Project Representative’s”.
- In paragraph 15.06B.1 of the General Conditions, delete “Engineer” and substitute “Resident Project Representative” throughout the paragraph. Also, delete “Engineer’s” and substitute “Resident Project Representative’s” throughout the paragraph.
- SC-15.06C In paragraph 15.06C of the General Conditions, delete “Engineer’s” and substitute “Resident Project Representative’s”.
- SC-15.06D In paragraph 15.06D of the General Conditions, delete “Engineer” and substitute “Resident Project Representative”. Also, delete “Engineer’s” and substitute “Resident Project Representative’s”.
- SC-15.08A In paragraph 15.08A of the General Conditions, add “or reasonably suspected by Owner or Resident Project Representative” after “found”.
- In paragraph 15.08A.1 of the General Conditions, add “investigate and” immediately before “correct”.
- SC-16.01A In the first sentence of paragraph 16.01A of the General Conditions, delete “Contractor and Engineer” and substitute “Contractor, Engineer, and Resident Project Representative”.
- SC-16.02A In paragraph 16.02A.4 of the General Conditions, delete, “Owner or Engineer” and substitute “Owner, Engineer, or Resident Project Representative”.
- SC-16.02E In the fourth sentence of paragraph 16.02E of the General Conditions, delete “Engineer” and substitute “Resident Project Representative” throughout the sentence.
- SC-16.03 In paragraph 16.03A of the General Conditions, delete “Contractor and Engineer,” and substitute “Contractor, Engineer, and Resident Project Representation,”.
- SC-16.04A In paragraph 16.04A of the General Conditions, delete “Engineer fails” and substitute “Resident Project Representation fails”. Also, delete “Owner and Engineer” and substitute “Owner and Resident Project Representative” throughout the document.
- SC-18.09 Immediately after paragraph 18.08 of the General Conditions, add the following:
- 18.09 Wage Rates

- A. Wage rates for the Work shall be not less than the current prevailing wages established for the Milwaukee or Waukesha County area, depending upon where the Work is being performed, as determined by the Department of Labor of the State of Wisconsin and the U.S. Department of Labor under the Davis-Bacon and related Acts. Recent prevailing wages applicable to this project are included as Exhibit SC-A, and made a part of the Supplementary Conditions. The Contractor is advised that the prevailing wages are subject to revision on a monthly basis and that the Contractor shall comply with the then current prevailing wages.

END OF SECTION

SECTION 00 82 30

U.S. ENVIRONMENTAL PROTECTION AGENCY

CERTIFICATION OF NONSEGREGATED FACILITIES

(Applicable to federally assisted construction contracts and related subcontracts exceeding \$10,000 that are not exempt from the Equal Opportunity clause.)

The federally assisted construction contractor certifies that they do not maintain or provide for their employees any segregated facilities at any of their establishments, and that they do not permit their employees to perform their services at any location, under their control, where segregated facilities are maintained. The federally assisted construction contractor certifies further that they will not maintain or provide for their employees any segregated facilities at any of their establishments, and that they will not permit their employees to perform their services at any location, under their control, where segregated facilities are maintained. The federally assisted construction contractor agrees that a breach of this certification is a violation of the Equal Opportunity clause in this contract. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, rest rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive or are in fact segregated on the basis of race, creed, color, or national origin, because of habit, local custom or otherwise. The federally assisted construction contractor agrees that (except where they have obtained identical certifications from proposed subcontractors for specific time periods) they will obtain identical certifications from proposed subcontractors prior to the award of subcontracts exceeding \$10,000 which are not exempt from the provisions of the Equal Opportunity clause, and that they will retain such certification in their files.

Signature

Date

Name and Title of Signer

(Please type)

Firm Name

NOTE: The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001.

(NO TEXT FOR THIS PAGE)

SECTION 00 82 40

NOTICE TO LABOR UNIONS OR OTHER ORGANIZATIONS OF WORKERS
NONDISCRIMINATION IN EMPLOYMENT

To: _____

(Name of union or organization of workers)

The undersigned currently holds contract(s) with _____

(Name of applicant)

involving funds or credit of the U.S. Government or (a) subcontract(s) with a prime contractor holding such contract(s).

You are advised that under the provisions of the above contracts(s) or subcontract(s) and in accordance with Executive Order 11246, as amended, dated September 24, 1965, as amended, the undersigned is obliged not to discriminate against any employee or applicant for employment because of race, color, creed or national origin. This obligation not to discriminate in employment includes, but is not limited to, the following:

HIRING, PLACEMENT, UPGRADING, TRANSFER OR DEMOTION, RECRUITMENT, ADVERTISING, OR SOLICITATION FOR EMPLOYMENT, TRAINING DURING EMPLOYMENT, RATES OF PAY OR OTHER FORMS OF COMPENSATION, SELECTION FOR TRAINING INCLUDING APPRENTICESHIP, LAYOFF OR TERMINATION.

This notice is furnished you pursuant to the provisions of the above contract(s) or subcontract(s) and Executive Order 11246, as amended.

Copies of this notice will be posted by the undersigned in conspicuous places available to employees or applicants for employment.

(Contractor or Subcontractor)

(Date)

(NO TEXT FOR THIS PAGE)

SECTION 00 82 50

DISADVANTAGED BUSINESS ENTERPRISE

ARTICLE 1 GENERAL REQUIREMENTS

- 1.01 This project is being financed by the Environmental Protection Agency (EPA) Water Infrastructure Finance and Innovation Act (WIFIA) program and the Wisconsin Department of Natural Resources (WDNR) Clean Water Fund Program (CWFP). Municipalities constructing projects designated as federal equivalency must comply with the following federal laws and all applicable state and federal laws, rules and regulations and must ensure that their contractor(s) also comply with these laws, rules, and regulations.
- A. Title VI of the Civil Rights Act of 1964 (P.L 88-352), the Rehabilitation Act of 1973 (P.L. 93-1123, 87 Stat. 355, 29 U.S.C. Sec. 794), the Older Americans Amendments of 1975 (P.L. 94-135 Sec. 303, 89 Stat. 713, 728, 42 U.S.C. Sec. 6102), and subsequent regulations, ensures access to facilities or programs regardless of race, color, national origin, sex, age or handicap.
 - B. Executive Orders 11246, as amended by Executive Orders 11375 and 12086 and subsequent regulations. Prohibits employment discrimination on the basis of race, color, religion, sex or national origin. Inclusion of the seven clauses in Section 202 of E. O. 11246 as amended by E. O. 11375 and 12086 are required in all project related contracts and subcontracts for municipalities over 3,300 population.
 - C. Executive Orders 11625, 12138 and 12432; 40 CFR part 33; Section 129 of P. L. 100-590 Small Businesses Reauthorization & Amendment Act of 1988; Public Law 102-389 (42 U.S.C. 437d); a 1993 appropriations act ("EPA's 8% statute"); Public Law 101-549, Title X of the Clean Air Acts Amendments of 1990 (42 U.S.C. 7601 note) ("EPA's 10% statute"). Encourages recipients to award construction, supply, and professional service contracts to minority and women's business enterprises (MBE/WBE) and small businesses and requires recipients to utilize affirmative steps in procurement.
 - D. 40 CFR Part 33 Participation by Disadvantaged Business Enterprises in Procurement under Environmental Protection Agency (EPA) Financial Assistance Agreements.
 - E. Executive Order 12549, 3 CFR, 189; and 40 CFR Part 32, Subparts B and C. Prohibits entering into contracts or sub-contracts with individuals or businesses who are debarred or suspended. Borrowers are required to check the status of all contractors (construction and professional services) and must require contractors to check the status of subcontractors for contracts expected to be equal to or over \$25,000 via this Internet address: <http://epls.arnet.gov/>.

- F. Executive Order 13202, as amended by Executive Order 13208, does not allow bid specifications, project agreements or other controlling agreements to require or prohibit bidders, contractors or subcontractors to enter into or to adhere to project labor agreements.
- G. Section 513 of the Federal Water Pollution Control Act (33 USC 1372) or Section 1450(e) of the Safe Drinking Water Act (42 USC 300j-9(e)), as applicable, which requires that all laborers and mechanics employed by contractors and subcontractors on projects funded directly by or assisted in whole or in part by and through the Federal Government pursuant to this Act shall be paid wages at rates not less than those prevailing on projects of a character similar in the locality as determined by the Secretary of labor in accordance with subchapter IV of chapter 31 of title 40, United States Code. With respect to the labor standards specified in this section, the Secretary of Labor has the authority and functions set forth in Reorganization Plan Numbered 14 of 1950 (64 Stat. 1267; 5 U.S.C. App.) and section 3145 of title 40, United State Code.
- H. Please note this provision ("Davis-Bacon) applies to ALL loan recipients.

1.02 DISADVANTAGED BUSINESS ENTERPRISE POLICY

- A. It is the policy of the State of Wisconsin to award a fair share of sub-agreements to Disadvantaged Business Enterprises which include but are not limited to small, minority, and women's businesses.
- B. Prime contractors and subcontractors participating in a WIFIA program or SDWL program funded project must also make good faith efforts whenever they subcontract for construction work, equipment, raw materials, or supplies. Good faith efforts include solicitation of DBEs and other steps identified in Form 8700-294, DBE Good Faith Certification Form, which the municipality must complete before receiving a loan. See the Forms section below.
- C. These specifications define the terms, conditions, and requirements of the provisions of 40 CFR Part 35.3145(d), and the Waukesha Water Utility policy and procedures for complying with these requirements.
- D. The six affirmative steps are described in the Clean Water State Revolving Fund regulations at 40 C.F.R. '35.3145(d)(1)-(6), they represent good faith efforts to attract and utilize DBE's.
- E. As required by the award conditions of USEPA's Assistance Agreement with WDNR, the fair share percentages are 8% for MBEs and 8% for WBEs.

1.03 GOOD FAITH EFFORTS

- A. Good faith efforts are activities by a recipient or its prime contractor to increase DBE awareness of procurement opportunities through race/gender neutral efforts.

- B. EPA offers the following examples to assist recipients and prime contractors in carrying out the good faith efforts.
1. Ensure MBE/WBEs are made aware of contracting opportunities to the fullest extent practicable through outreach and recruitment activities. For Indian tribal, state and local government recipients, this will include placing MBE/WBEs on solicitation lists and soliciting them whenever they are potential sources.
 - a. Maintain and update a listing of qualified MBE/WBEs that can be solicited for construction, equipment, services and/or supplies.
 - b. Provide listings to all interested parties who request copies of the bidding or proposing documents.
 - c. Contact appropriate sources within your geographic area and state to identify qualified MBE/WBE for placement on your MBE/WBE business listings.
 - d. Utilize other MBE/WBE listings such as those of the state's minority business office, the Small Business administration, Minority Business Development Agency (MBDA) of the Department of Commerce, EPA OSDBU, and DOT.
 - e. Have state environment agency personnel review solicitation lists.
 2. Make information of forthcoming opportunities available to MBE/WBEs and arrange time for contracts and establish delivery schedules, where requirements permit, in a way that encourages and facilitates participation by DBEs in the competitive process. This includes, whenever possible, posting solicitations for bids or proposals for a minimum of 30 calendar days before the bid or proposal closing date.
 - a. Develop realistic delivery schedules which may provide for greater MBE/WBE participation.
 - b. Advertise through the minority media in order to facilitate MBE/WBE utilization. Such advertisements may include, but are not limited to, contracting and subcontracting opportunities, hiring and employment, or any other matter related to the project.
 - c. Advertise in general circulation publications, trade publications, state agency publications and minority and women's business focused media concerning contracting opportunities on your projects. Maintain a list of minority and/or women's business-focused publications that may be utilized to solicit MBE/WBEs.
 3. Consider in the contracting process whether firms competing for large contracts could subcontract with MBE/WBEs. For Indian tribal, state and local government recipients, this will include dividing total requirements when economically feasible into smaller tasks or quantities in order to

increase opportunities for participation by MBE/WBEs in the competitive process.

- a. Perform an analysis to identify portions of work that can be divided and performed by qualified MBE/WBEs.
 - b. Scrutinize the elements of the total project to develop economical units of work that are within the bonding range of MBE/WBEs.
 - c. Conduct meetings, conferences, and follow-ups with MBE/WBE associations and minority media to inform these groups of opportunities to provide construction, equipment, services and supplies.
4. Encourage contracting with a consortium of MBE/WBEs when a contract is too large for one of these firms to handle individually.
- a. Notify MBE/WBEs of future procurement opportunities so they may establish bidding solicitations and procurement plans.
 - b. Provide MBE/WBE trade organizations with succinct summaries of solicitations.
 - c. Provide interested MBE/WBEs with adequate information about plans, specifications, timing and other requirements of the proposed projects.
5. Use the services and assistance of the SBA and the MBDA.
- a. Use the services of outreach programs sponsored by the MBDA and/or the SBA to recruit bona fide firms for placement on DBE bidders lists to assist these firms in the development of bid packaging.
 - b. Seek out Minority Business Development Centers (MBDCs) to assist recipients and prime contractors in identifying MBE/WBEs for potential work opportunities on projects.
6. If the prime contractor awards subcontracts, require the prime contractor to take the steps in subparagraphs (1)-(5) of this section.

1.04 PRE-CONTRACT AWARD OBLIGATIONS

- A. Bidders/offerors are required to advertise subcontracting opportunities and to negotiate with DBE's prior to the day of the bid opening. Failure to document such affirmative efforts shall be deemed, relative to DBE compliance non-responsive.
- B. To establish a bid as responsible, the bidder/offeror will be required to document the proposed utilization of DBE's with letters of intent signed by the bidder/offeror and by the small, minority, and women's business listed in the bid. The documentation requirements are outlined in Section III.
- C. The Waukesha Water Utility DBE policy clearly intends for bidders/offerors to contact and encourage the participation of DBE's prior to Bid opening. Affirmative efforts (the written record of conscientious and honest communications between the

bidder and DBE) must be initiated and completed by the bidder prior to the day of the bid opening. All bidders must document compliance with the requirements of the DBE policy.

- D. Contact DBEs on a Unified Certification Program (UCP) List to solicit bids from these firms (e.g., firms registered in the WisDOT UCP, <http://wisconsindot.gov/Pages/doint-bus/civil-rights/dbe/certified-firms.aspx>) . This good faith effort option is available for municipalities, prime contractors and subcontractors to comply with the DBE requirements. The individual that makes the contacts should document all the contacts, preferably using Form 8700-294a, the DBE Contacts Worksheet.
- E. The UCP lists are the main sources of certified DBEs for the WIFIA program and the SDWL program, but there are other sources available. Any certification must meet the same requirements as those used for UCP-listed businesses. Any firm providing DBE certifications must be approved by the U.S. Environmental Protection Agency (USEPA).
- F. Utilize DBEs registered with the UCP (e.g., WisDOT UCP, <http://wisconsindot.gov/Pages/doint-bus/civil-rights/dbe/certified-firms.aspx>) . Municipalities must require prime contractors to complete and submit with bids EPA Form 6100-4, DBE Subcontractor Utilization Form, for any DBE subcontractors they intend to use on the contract. Municipalities must then submit those forms to DNR along with other bidding documents prior to loan closing.

1.05 EVALUATION OF DBE UTILIZATION AND GOOD FAITH EFFORTS

- A. As a prerequisite to demonstrate compliance with the DBE policy, ALL bidders shall provide the following with its bid:
 - 1. Completed and signed notarized certification from the bidder(s), attesting that the bidder will award no sub-agreements, including the procurement of equipment, materials, supplies and services, in the performance of this contract if no sub-agreements will be awarded.
 - 2. "Certification of publication," or adequate evidence of proof of publication, including an actual copy of the newspaper advertisement from the newspaper utilized by the bidder. The advertisement must run one day at least fifteen (15) days prior to the day of the bid opening. A simple statement like "DBEs, including MBEs and WBEs, are encouraged to submit proposals." If just one advertisement is published for all areas of work that may be subcontracted, it should indicate those types of work that could be subcontracted. The advertisement(s) must appear in an industry trade publication and/or the official newspaper of public record for the municipality. The bidder shall attach a copy of the advertisement to DBE Forms contained herein.
 - 3. Names (of owners), addresses, telephone numbers of qualified DBE's that submitted proposals to the bidder.

4. Names (of owners), addresses, telephone numbers of qualified DBE's to be utilized, AND names (of owners), addresses, telephone numbers of qualified DBE's who submitted proposals to the bidder but will not be utilized. Justification for non-utilization must be provided.
 5. Description of the work to be performed by the DBE's, including the dollar amount.
 6. Completed, signed certification from the DBE's to be utilized attesting that they are a DBE as defined by the USEPA, 40 CFR 33.005 (reference attached certification for the information necessary).
 7. Completed, signed certification from the bidder(s) utilizing small, minority, and/or women's businesses, attesting that the bidder has no controlling or dominating interest or conflict of interest with the small, minority, and/or women's business that is proposed to be utilized (reference attached certification for the information necessary).
 8. In instances where the bidder(s) does not receive any inquiries or proposals from qualified DBE's prior to bid opening, the bidder(s) must provide a written certification attesting that no responses or proposals were received (reference attached certification for information necessary).
 9. NOTE: Data Sheet #1 may be used for this purpose.
 10. Failure to submit the documentation pursuant to the requirements of A(1-8) above shall cause rejection of the bid as non-responsive.
- B. The low, responsive bidder will be deemed responsible with respect to the small, minority, and women's business requirements if:
1. The low, responsive bidder submits within ten (10) calendar days of the date on which the OWNER notifies the bidder that its bid is the apparent low responsive bid, letters of intent signed by the bidder and by the DBE listed in the bid, stating the work to be performed, and the dollar amount of the work.
 2. Failure to submit the documentation pursuant to the requirements of B(1) above may cause rejection of the bid as non-responsive.
 3. Where the bidder/offeror is considered non-responsible under this subsection, the OWNER will promptly advise the bidder/offeror, in writing, of the basis for the non-responsibility determination.

1.06 SANCTIONS

- A. The OWNER may reject one or all bids where the information submitted by the bidder/offeror(s) fails to objectively demonstrate compliance with the DBE requirements (i.e., failure to place the pre-bid advertisement by the bidder(s) at least fifteen (15) days prior to the day of the bid opening shall not be considered as objectively demonstrating compliance with the DBE requirements).

- B. Upon finding that any Party has not complied with the requirements of these specifications, including misrepresenting a firm as a DBE, any one or a combination of the following actions may be taken.
 - 1. Declare the bidder/offeror, and/or subcontractor non-responsible and therefore ineligible for contract award.
 - 2. Disallow all contract costs associated with non-compliance.
 - 3. Refer any matter, which may be fraudulent to the Wisconsin Attorney General.
 - 4. Refer any matter, which may lead to criminal prosecution of a claim for funds to the Wisconsin Attorney General.

1.07 POST-CONTRACT AWARD COMPLIANCE

- A. As required by the award conditions of USEPA's Assistance Agreement with WDNR, all sub-agreements of the bidder must identify that the fair share percentages are 8% for MBEs and 8% for WBEs.
- B. Within fifteen (15) days after award of the prime contract, copies of all DBE related sub-agreements between the prime contractor and first-tier subcontractors shall be submitted to the OWNER.
- C. Any and all changes in previously reported DBE utilization shall be reported to the OWNER and WDNR promptly, in writing, with appropriate documentation and reasons. If there is non-utilization or reduced utilization without good cause, the OWNER will advise the contractor, in writing, of corrective actions to be initiated. If the contractor fails to initiate such actions, the OWNER may withhold payments and/or institute other appropriate sanctions.

(NO TEXT FOR THIS PAGE)

Bidder Certification

I _____, do hereby certify that:
(Name)

1. I am _____ of the _____
(Position) (firm)
and have authority to execute this certification on behalf of the firm;
2. This firm will award no sub-agreements, including the procurement of equipment, materials, supplies, and services, in the performance of this contract.

Name of Firm _____

Signature _____

Title _____

Date _____

Corporate Seal (where appropriate)

(NO TEXT FOR THIS PAGE)

Suggested Disadvantaged Business Advertisement for
Bidders

Notice to Disadvantaged Business Enterprises:

_____, _____, _____, is
(Name of Company) (Address of Company) (Telephone)
seeking qualified Disadvantaged Business Enterprises for the _____ Project
for subcontracting opportunities in the following areas: _____,
_____, _____, _____.

All interested and qualified Disadvantaged Business Enterprises should contact, IN
WRITING, (certified letter, return receipt requested), _____, to discuss
the (Company Contact Person)
subcontracting opportunities. All negotiations must be completed prior to the bid opening
date

_____.
(Date of Bid Opening)

- * The advertisement must clearly state the method of evaluating the proposals or quotations, and the relative importance attached to each criterion. Bidders must uniformly and objectively evaluate the proposals submitted by Disadvantaged Business Enterprises in response to the advertisement based upon the evaluation criteria stated in the advertisement. The evaluation criteria must not be restrictive or exclusionary.

(NO TEXT FOR THIS PAGE)

Data Sheet #1
Disadvantaged Business Enterprises
Participation Documentation

- 1) Completed, signed certification from bidder(s), attesting that the bidder will award no sub-agreements, including the procurement of equipment, materials, supplies and services in the performance of this contract.

OR

- 2) "Certificate of publication, or adequate evidence of proof of publication, including an actual copy of the newspaper advertisement from the "key" newspaper utilized by each bidder based upon the projects locality.

Dates of bidder advertisement: _____

Date of bid opening: _____

- 3) Names (of owners), addresses, telephone numbers of qualified Disadvantaged Business Enterprises who submitted proposals to the bidder. Specify as a small business, minority business, women's business*).

a) Name of Company:
 Name of Owners:
 Address of Company:
 Telephone Number:
 * Business Amount of subcontract:

b) Name of Company:
 Name of Owners:
 Address of Company:
 Telephone Number:
 * Business Amount of subcontract

c) Name of Company:
 Name of Owners:
 Address of Company:
 Telephone Number:
 * Business Amount of subcontract

(Furnish data for additional subcontractors on plain bond paper).

- 4) Names (of owners), addresses, telephone numbers of qualified Disadvantaged Business Enterprises to be utilized AND names (of owners), addresses, telephone numbers of Disadvantaged Business Enterprises who submitted proposals to the bidder but will not be utilized. Justification for non-utilization must be provided.

5) Description of the work to be performed by the Disadvantaged Business Enterprises, including the dollar amount.

a) Information concerning Disadvantaged Business Enterprises to be utilized:

- i) Name of Company:
Address of Company
Telephone Number:
Amount of Subcontract:
Description of work to be performed:
Will this firm be doing all (100%) of this subcontract?

Yes_____ No_____

If no, explain:

- ii) Name of Company:
Address of Company
Telephone Number:
Amount of Subcontract:
Description of work to be performed:
Will this firm be doing all (100%) of this subcontract?

Yes_____ No_____

If no, explain:

- iii) Name of Company:
Address of Company
Telephone Number:
Amount of Subcontract:
Description of work to be performed:
Will this firm be doing all (100%) of this subcontract?

Yes_____ No_____

If no, explain:

(Furnish data for additional subcontractors on plain bond paper).

b) Information concerning Disadvantaged Business Enterprises, which will not be utilized:

i) Name of Company:
Address of Company
Telephone Number:
Amount of Proposal:
Justification for rejection:

ii) Name of Company:
Address of Company
Telephone Number:
Amount of Proposal:
Justification for rejection:

iii) Name of Company:
Address of Company
Telephone Number:
Amount of Proposal:
Justification for rejection:

(Furnish data for additional subcontractors on plain bond paper).

- 6) Completed, signed certification from each Disadvantaged Business Enterprise to be utilized attesting that they are a Disadvantaged Business Enterprise as defined by the USEPA, 40 CFR 33.005.
- 7) Completed, signed certification from bidder(s) utilizing Disadvantaged Business Enterprises, attesting that the bidder has no dominating or conflict of interest with the Disadvantaged Business Enterprises to be utilized.
- 8) In instances where the bidder(s) does not receive any inquiries or proposals from Disadvantaged Business Enterprises prior to bid opening, the bidder(s) must provide a written certification attesting that no responses or proposals were received.

(Furnish data for additional subcontractors on plain bond paper.)

(NO TEXT FOR THIS PAGE)

**ATTACH CERTIFICATION OF
PUBLICATION TO THIS PAGE USING
A PAPER CLIP.**

(NO TEXT FOR THIS PAGE)

Certification For
Disadvantaged Business Enterprises

I, _____, do hereby certify that:

1. I am _____ of the _____,
(Position) (Name of Firm)
and have authority to execute this certification on behalf of the firm.
2. This firm is a: (Check One Only)

_____ Small Business as defined in Section 3 of the Small Business Act as amended (15 U.S.C. 632).

_____ Minority Business Enterprise (MBE) including ownership and control, as defined by the USEPA, 40 CFR 33.005.

_____ Women's Business Enterprise (WBE) including ownership and control, as defined by the USEPA, 40 CFR 33.005.
3. I will provide, upon written request, through the prime contractor or, if no prime, directly to the Wisconsin Department of Natural Resources (WDNR) or United States Environmental Protection Agency (USEPA), current, complete, and accurate information regarding:
 - a) Actual work performed on any project and the payment thereof and,
 - b) Any proposed changes, in the status of the firm, which would render this certificate inaccurate.
4. This firm will permit either the WDNR or USEPA to audit and examine its books, records and files.

Name of Firm _____

Signature _____

Title _____

Date _____

Corporate Seal (where appropriate)

(NO TEXT FOR THIS PAGE)

Bidder Certification Regarding the Use of
Disadvantaged Business Enterprises

I, _____, do hereby certify that:

1. I am _____ of the _____
Name of Firm Position
and have authority to execute this certification on behalf of the firm;
2. This firm, its partners or directors and officers does not possess a controlling interest in ownership or conflict of interest or any other authority to control the Disadvantaged Business Enterprises to be used during the performance of the contracts.

Name of Firm _____

Signature _____

Title _____

Date _____

Corporate Seal (where appropriate)

(NO TEXT FOR THIS PAGE)

Letter of Intent Regarding the Use of
Disadvantaged Business Enterprises

The Prime Contractor, _____ will award a Contract
to _____ in the amount of \$ _____
for (Name of DBE Firm)

the _____ on the project known as the _____
_____.

This notification is pursuant to the Prime Contractor's award of the contract with the
Waukesha Water Utility.

Signed: _____ Date: _____
(Bidder/Prime Contractor)

Title: _____

Signed: _____ Date: _____
(DBE Subcontractor)

Title: _____

Corporate Seal (where appropriate)

(NO TEXT FOR THIS PAGE)

Bidder Certification for the Advertisement Regarding Subcontracting Opportunities for
Disadvantaged Business Enterprises

I _____, do hereby certify that:
(Name)

1. I am _____ of the _____
(Position) (Firm)
and have authority to execute this certification on behalf of the firm;

2. This firm did not receive any inquiries or proposals from interested
Disadvantaged Business Enterprises as a result of the required newspaper notice prior to
the bid opening date of _____.
Date of Bid Opening

Name of Firm _____

Signature _____

Title _____

Date _____

Corporate Seal (where appropriate)

END OF SECTION

(NO TEXT FOR THIS PAGE)

WAUKESHA WATER UTILITY
GREAT LAKES WATER SUPPLY PROGRAM

SIGNATURES AND SEALS

<u>DIVISION</u>	<u>DESCRIPTION</u>
DIVISION 0	PROCUREMENT AND CONTRACTING REQUIREMENTS
DIVISION 1	GENERAL REQUIREMENTS
DIVISION 2	EXISTING CONDITIONS
DIVISION 31	EARTHWORK
DIVISION 32 SECTION 32 90 00	EXTERIOR IMPROVEMENTS, ONLY: LANDSCAPING WORK
DIVISION 33	UTILITIES
DIVISION 40 SECTION 40 05 01 SECTION 40 05 20	PROCESS INTEGRATION, ONLY: SUPPORTS AND ANCHORS VALVES

SIGNATURE
PRINCIPAL ENGINEER OF CIVIL DESIGN

DATE

SEAL:

Expiration Date:

(NO TEXT FOR THIS PAGE)

WAUKESHA WATER UTILITY
GREAT LAKES WATER SUPPLY PROGRAM

SIGNATURES AND SEALS

DIVISION

DESCRIPTION

DIVISION 32

EXTERIOR IMPROVEMENTS, ONLY:

SECTION 32 11 23

BASE COURSES

SECTION 32 12 00

ASPHALT PAVING

SECTION 32 13 00

CONCRETE PAVING

SECTION 32 16 13

CONCRETE CURBS

SECTION 32 16 23

CONCRETE SIDEWALKS

SECTION 32 17 23

PERMANENT PAVEMENT MARKING

SECTION 32 95 00

TRAFFIC CONTROL

SIGNATURE
PRINCIPAL ENGINEER OF PAVEMENT AND
TRAFFIC CONTROL DESIGN

DATE

SEAL:

Expiration Date:

(NO TEXT FOR THIS PAGE)

WAUKESHA WATER UTILITY
GREAT LAKES WATER SUPPLY PROGRAM

SIGNATURES AND SEALS

<u>DIVISION</u>	<u>DESCRIPTION</u>
DIVISION 3	CONCRETE
DIVISION 4	MASONRY
DIVISION 5	METALS
DIVISION 7	THERMAL AND MOISTURE PROTECTION
DIVISION 8	OPENINGS

SIGNATURE
PRINCIPAL ENGINEER OF STRUCTURAL
DESIGN (FOR OUTFALL ONLY)

DATE

SEAL:

Expiration Date:

(NO TEXT FOR THIS PAGE)

WAUKESHA WATER UTILITY
GREAT LAKES WATER SUPPLY PROGRAM

SIGNATURES AND SEALS

<u>DIVISION</u>	<u>DESCRIPTION</u>
DIVISION 9	FINISHES
DIVISION 32 SECTION 32 92 00	EXTERIOR IMPROVEMENTS, ONLY: RESTORATION WILDFLOWERS AND GRASSES
DIVISION 40 SECTION 40 05 10 SECTION 40 05 17 SECTION 40 05 18	PROCESS INTEGRATION, ONLY: ERECTING AND JOINTING INTERIOR AND EXPOSED EXTERIOR PIPING STEEL PIPE AND FITTINGS MISCELLANEOUS PIPE AND FITTINGS
DIVISION 44	POLLUTION AND WASTE CONTROL EQUIPMENT
DIVISION 46	WATER AND WASTEWATER EQUIPMENT

SIGNATURE
PRINCIPAL ENGINEER OF CIVIL DESIGN (FOR
OUTFALL ONLY)

DATE

SEAL:

Expiration Date:

(NO TEXT FOR THIS PAGE)

SIGNATURES AND SEALS

DESCRIPTION

HEATING, VENTILATING, AND AIR CONDITIONING

DATE _____

Expiration Date:

(NO TEXT FOR THIS PAGE)

WAUKESHA WATER UTILITY
GREAT LAKES WATER SUPPLY PROGRAM

SIGNATURES AND SEALS

DIVISION

DESCRIPTION

DIVISION 26

ELECTRICAL

SIGNATURE
PRINCIPAL ENGINEER OF ELECTRICAL
DESIGN (FOR OUTFALL ONLY)

DATE

SEAL:

Expiration Date:

(NO TEXT FOR THIS PAGE)

SIGNATURES AND SEALS

PROCESS INTEGRATION, ONLY: PROCESS CONTROL SYSTEM INSTRUMENTS

(NO TEXT FOR THIS PAGE)

SECTION 01 11 00
SUMMARY OF WORK

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Description of Work
- B. Constraints
- C. Work By Others
- D. Storage
- E. Availability of Land
- F. CONTRACTOR's Use of Site
- G. Work Sequence
- H. Access
- I. Construction Progress Documentation
- J. Personnel

1.2 DESCRIPTION OF WORK

A. General:

- 1. The Program consists of the following key components as further described in this Section:
 - a. New Water Supply System:
 - (1) A new connection to the Milwaukee Water Works Distribution System.
 - (2) A new Oklahoma Pumping Station Suction Pipeline.
 - (3) A new Oklahoma Pumping Station.
 - (4) A new Water Supply Pipeline Sections I, II, and III (also referred to as the "WSPL Sections I, II, and III").

- (5) A new Booster Pumping Station, Storage, and Chemical Facilities (also referred to as the “BPS”).
 - (6) A new Booster Pumping Station Discharge Pipeline (also referred to as the “BPS Discharge Pipeline”).
 - (7) A new Water Supply Control Building (also referred to as the “WSCB”).
 - (8) A new connection to the Waukesha Water Utility Distribution System.
 - b. New Return Flow System:
 - (1) A new Return Flow Pumping Station (also referred to as the “RFPS”).
 - (2) A new Return Flow Pipeline (also referred to as the “RFPL”), of which this Contract is a part.
 - (3) A new Reaeration Structure and Outfall.
 - c. A new 18-Inch Sanitary Sewer as part of the City of Franklin’s collection system.
- 2. The Program has been segmented into the following:
 - a. Contract Package 1 – Oklahoma Pumping Station
 - b. Contract Package 2 – RFPL, BPS Discharge Pipeline, WSPL Sections I, II, and III, and Oklahoma Pumping Station Suction Pipeline
 - (1) A segment of the Return Flow Pipeline and the BPS Discharge Pipeline are located in the same corridor from the WSCB to the BPS.
 - c. Contract Package 3 – Booster Pumping Station, Storage and Chemical Facilities
 - d. Contract Package 4 – Return Flow Pumping Station
 - e. Contract Package 5 – Return Flow Pipeline
 - f. Contract Package 6 – Return Flow Pipeline, 18-Inch Sanitary Sewer, and Outfall Facilities

3. The Work to be done under this Contract Package 6 consists of the construction of the following:
- a. Approximately 11.27 miles of new 30-inch ductile iron pipe main (referred to as the “Return Flow Pipeline”) from the contract package interface with Contract Package 5 located on Small Road west of the intersection of Small Road and Westridge Drive in the City of New Berlin to the new Outfall Facilities at the Root River located at the southeast quadrant of the intersection of South 60th Street and West Oakwood Road in the City of Franklin. Work includes open cut construction of the new pipeline, steel casings via the jack and bore method, horizontal directional drilling, isolation valves, blow-off assemblies, air valves, fittings, cathodic protection, testing, traffic control, erosion and sedimentation control, obtaining applicable permits, traffic control, restoration of roadway, landscape, and other existing infrastructure, and all other appurtenant Work as shown and specified in the Contract Documents titled Contract Package 6.
 - b. Approximately 3,950 linear feet of new 18-inch fiberglass reinforced plastic (FRP) pipe (referred to as the “18-Inch Sanitary Sewer”) from the connection point located on 60th Street, just south of Ryan Road in the City of Franklin, to the existing sewer collection system near the 60th Street Industrial Park Lift Station located on 60th Street, about 4,000 feet south of Ryan Road in the City of Franklin. Work includes open cut construction of the new sanitary sewer (or approved alternative construction method), installation of concrete manholes, backfilling and compaction, upstream and downstream tie-in connections to the existing sewer system, bypass pumping, and abandonment of the existing 60th Street Industrial Park Lift Station. Per Specification 01 29 00 Measurement and Payment, the Work for the pipeline installation portion of the contract is limited to only the Work that occurs starting 6 inches below the invert of the adjacent Return Flow Pipeline, except for the manhole installation, which is fully included in this Work item
 - c. New Outfall Facilities at the Root River located at the southeast quadrant of the intersection of South 60th Street and West Oakwood Road in the City of Franklin and new outfall piping to the Root River. Work includes site grading, construction of the reaeration structure, all structural and architectural work related to the building construction, electrical and controls, HVAC, sight lighting, asphalt drive paving, open cut construction of the new 30-inch discharge inverted siphon, outfall structure, including construction within the limits of the Root River, erosion and sediment control, final landscaping, obtaining applicable permits, and all other appurtenant Work as shown and specified in the Contract Documents titled Contract Package 6.

B. The Work includes:

1. Furnishing of labor, material, superintendence, facility, power, light, heat, fuel, water, tools, appliances, equipment, supplies, services and other means of construction necessary or proper for performing and completing the Work.
2. Sole responsibility for adequacy of facility and equipment.
3. Maintaining the Work area and site in a clean and acceptable manner.
4. Maintaining existing facilities in service except where specifically provided for otherwise herein.
5. Protection of finished and unfinished Work.
6. Repair and restoration of Work damaged during construction.
7. Remove, replace, relocate, repair, rebuild, and secure any utility installations and structures damaged as a direct or indirect result of the Work under this contract at no additional cost to the owner.
8. Furnishing as necessary proper equipment and machinery, of a sufficient capacity, to facilitate the Work and to handle emergencies normally encountered in Work of this character.
9. Furnishing, installing, and protecting necessary guides, track rails, bearing plates, anchor and attachment bolts, and other appurtenances needed for the installation of the devices included in the equipment specified. Make anchor bolts of appropriate size, strength and material for the purpose intended. Furnish substantial templates and shop drawings for installation.
10. All local, county, state and federal permits required to perform the work as required by the Contract Documents are the responsibility of the CONTRACTOR.

C. Implied and Normally Required Work: It is the intent of these Specifications to provide the OWNER with complete operable systems, subsystems and other items of Work. Any part or item of Work which is reasonably implied or normally required to make each installation satisfactorily and completely operable is deemed to be included in the Work and the Contract Amount. Miscellaneous appurtenances and other items of Work incidental to meeting the intent of these Specifications are included in the Work and the Contract Amount even though these appurtenances may not be specifically called for in these Specifications.

- D. Quality of Work: Regard the apparent silence of the Contract Documents as to any detail, or the apparent omission from them of a detailed description concerning any Work to be done and materials to be furnished as meaning that only the best general practice is to prevail and that only materials and workmanship of the best quality are to be used. Interpretation of these specifications will be made upon this basis.

1.3 CONSTRAINTS

- A. The Contract Documents are intended to allow the CONTRACTOR flexibility in construction of the Work, however, the following constraints apply:
1. Prepare and submit a comprehensive schedule of proposed sequence of construction of the various parts of the Work included under this Division for review by the RESIDENT PROJECT REPRESENTATIVE. Arrange the schedule to complete the Work in phases, meet the construction constraints, limitations, and requirements contained herein, and permit operation by the OWNER of completed phases or parts thereof.
 2. Perform the Work in strict accordance within the right-of-way or easements shown.
 3. Provide and make as part of the Work any temporary structures, connections, piping and other Work necessary to maintain service during the construction period.
 4. Work on this Contract must be coordinated with OWNER operations. Notify the RESIDENT PROJECT REPRESENTATIVE of the CONTRACTOR's planned procedures for each specific alteration of existing facilities before the alteration begins. Do not begin an alteration until specific permission has been granted by the RESIDENT PROJECT REPRESENTATIVE in each case. The RESIDENT PROJECT REPRESENTATIVE will coordinate the CONTRACTOR's planned procedure with the OWNER. The making of connections to existing facilities or other operations that interfere with the operation of the existing equipment or systems will be completed as quickly as possible and with as little delay as possible.
 5. Any operational functions of the existing systems that are required to be done to facilitate the Work of the CONTRACTOR will be performed by OWNER personnel only as identified in approved planning.
 6. If it is necessary for the proper operation or maintenance of the existing systems, reschedule CONTRACTOR'S operations so that Work will not conflict with necessary operations or maintenance of the existing systems.

7. The RESIDENT PROJECT REPRESENTATIVE and OWNER will be the sole judge of when the CONTRACTOR'S operations are causing interference with existing systems, carry out RESIDENT PROJECT REPRESENTATIVE's orders and instructions without delay.
8. Maintain access roads to existing facilities.
9. Obtain permits required by the authorities having jurisdiction and adhere to the permit requirements. Furnish copies of approved permits to the RESIDENT PROJECT REPRESENTATIVE and ENGINEER 14 days in advance prior to commencing Work in each jurisdiction.

Obtain proper permits required by railroad authorities and adhere to the permit requirements.
10. Do not stockpile or store equipment or materials in wetlands. Survey and mark wetland limits clearly prior to Work in the area and maintain wetland limit markings until final acceptance of restoration. Obtain proper permits and approvals and adhere to the requirements of the regulating authority.
11. Do not complete Work in floodplains or floodways when inundated or without proper permits and approvals required by regulating authority.

B. Hours of Operation:

1. No Work will be done outside the hours indicated in Division 0, nor on Saturdays, Sundays or OWNER holidays without written permission of RESIDENT PROJECT REPRESENTATIVE. Work outside the hours indicated in Division 0 must be pre-arranged through the RESIDENT PROJECT REPRESENTATIVE. Request to Work during the off-hours must be arranged not less than 24 hours before Work is to begin.
2. Night Work may be established by CONTRACTOR as regular procedure with written permission of RESIDENT PROJECT REPRESENTATIVE. Such permission may be revoked at any time by RESIDENT PROJECT REPRESENTATIVE if CONTRACTOR fails to maintain adequate equipment and supervision for proper prosecution and control of Work at night. Revocation will not entitle CONTRACTOR to change Contract Price or Contract Time.

C. Establish a sequence of construction to maintain uninterrupted operation of existing systems during construction.

D. Provide a sequence of construction using bypass pumping to maintain uninterrupted sanitary sewage flow to facilitate the construction of the new 18-inch Sanitary Sewer and the demolition of the 60th Street Industrial Park Lift Station (Lift Station) in the City of Franklin.

1. Provide sufficient portable pumping equipment to meet the following criteria:
 - a. Bypass pump from SAN MH 628A to the Lift Station Wet Well
 - (1) Provide bypass pumping capacity of 50 gpm
 - (2) SAN MH 628A is approximately 12 feet deep
 - b. Bypass pump from New SAN MH 01 to New SAN MH 02
 - (1) Provide bypass pumping capacity of 600 gpm
 - (2) New SAN MH 01 is approximately 19 feet deep
2. Sewage flow from the 60th Street Industrial Park and from local residential properties to the Ryan Creek Interceptor must remain in uninterrupted service at all times during the work. Bypass pumping will be required to construct the new 18-inch sanitary sewer and to take the Lift Station out of service and demolish as shown. CONTRACTOR to be aware that raw sewage may be present in the pipe, manholes, and Lift Station during demolition and when installing plugs and is to be responsible for any necessary precautions.
3. Provide fully functional standby pumps, rated for raw sewage, that will automatically start and operate in the event the lead pump fails for whatever reason. Electrical service to operate pumping equipment will not be available on site. Use of diesel powered equipment to operate pumping equipment will be allowed. Monitor the portable pumping equipment continuously to ensure trouble-free operation. Security measures for the temporary pumps will be the responsibility of the CONTRACTOR.
4. Provide continuous monitoring of the portable pumping equipment to ensure trouble free operation. Monitoring to be done by a qualified representative of the CONTRACTOR and is to be continuously manned for the duration of the bypass pumping.
5. During bypass pumping, do not allow sewage to be leaked, dumped, or spilled in or onto any area. The bypass pumping system shall be 100 percent watertight.
6. Submit, prior to installation, a detailed plan and description outlining all details and provisions of the temporary bypass pumping system. Provide a plan that is specific and complete, including such items as schedules, locations, capacities of equipment, materials and all other incidental items necessary and/or required to insure proper operation of the bypass pumping system, including protection of the access and bypass pumping locations

from damage due to the discharge flows, and compliance with the requirements specified in these Contract Documents. No bypass pumping shall begin until all provisions and requirements have been reviewed and approved.

7. Clean and empty all sewage from the existing Lift Station Wet Well in coordination with the City of Franklin. Sewage that cannot be pumped out utilizing the existing Lift Station pumps is to be removed and disposed of by the CONTRACTOR. CONTRACTOR to provide all equipment required to empty the wet well, including pumps, piping, hoses, valves, and appurtenances.
8. Notify the ENGINEER 7 days in advance of performing this work. Only after the ENGINEER has approved the CONTRACTOR's request will work be allowed to proceed.
9. Prior to commencing with this work, all required components, tools, materials and equipment to complete the work are required to be on site.
10. Suggested Bypass Pumping Sequence:
 - a. Install the new 18" Sanitary Sewer downstream of new SAN MH 02, including downstream connection to the Ryan Creek Interceptor. Clean, test, and video new 18" Sanitary Sewer and new manholes as shown and specified.
 - b. Install bypass pumping system to pump from SAN MH 628A to the Lift Station Wet Well. Plug the outlet of SAN MH 628A. Bypass pump from SAN MH 628A to the Lift Station Wet Well.
 - c. Expose and remove the existing 8" sewer pipe between SAN MH 628A and the Lift Station to accommodate the installation of new SAN MH 02. The existing sewer pipe is anticipated to be 8" PVC sewer pipe within an 18" steel casing pipe. Plug the Lift Station Wet Well inlet from SAN MH 628A to prevent overflow of sewage at high water levels in the Lift Station Wet Well. Coordinate with City of Franklin to operate Lift Station pumps to prevent overflow of sewage at high water levels prior to plug being installed in inlet from SAN MH 628A.
 - d. Install new SAN MH 02. Install new 8" PVC sewer pipe between SAN MH 628A and new SAN MH 02. Match existing PVC pipe class of outlet pipe from SAN MH 628A. Connect new 8" PVC sewer pipe to existing PVC sewer pipe using a flexible pipe connector. Connect new 18" Sanitary Sewer to 18" north outlet of new SAN MH 02. Install plug in the 18" east inlet of new SAN MH

02. Clean, test, and video new pipe and manhole as shown and specified.
- e. Stop bypass pumping from SAN MH 628A to the Lift Station Wet Well. Remove plug in SAN MH 628A and allow sewage to flow from SAN MH 628A to new SAN MH 02 by gravity. Remove bypass pumping system.
 - f. Install new SAN MH 01 prior to starting the sequence below.
 - g. Install bypass pumping system to pump from new SAN MH 01 to new SAN MH 02. Install plug in the 18" west outlet of new SAN MH 01 to isolate the flow of sewage out of new SAN MH 01. Bypass pump from new SAN MH 01 to new SAN MH 02.
 - h. Clean and empty all sewage from the existing Lift Station Wet Well in coordination with the City of Franklin.
 - i. Install 18" sanitary sewer between new SAN MH 01 and new SAN MH 02 as shown, including piping through the Lift Station. CONTRACTOR responsible for disposing of all debris from demolition of Lift Station.
 - j. Stop bypass pumping from new SAN MH 01 to new SAN MH 02. Remove plug in the 18" east inlet of new SAN MH 02. Remove plug in the 18" west outlet of new SAN MH 01 and allow sewage to flow by gravity from new SAN MH 01 to new SAN MH 02. Remove bypass pumping system.

1.4 WORK BY OTHERS

- A. Work on other projects, which may take place concurrently with this Contract and which is excluded from this Contract, is as follows:
 - 1. Contract Package 1 – Oklahoma Pumping Station: Coordinate pipeline construction with construction of a new Oklahoma Pumping Station on the southeast quadrant of W. Oklahoma Avenue and S. 76th Street in the City of Milwaukee that will be installed as part of the OWNER's new water supply system.
 - 2. Contract Package 2 – Return Flow Pipeline, BPS Discharge Pipeline, Water Supply Pipeline: Coordinate construction with construction of a new 30-inch Water Supply Pipeline and new 36-inch BPS Discharge Pipeline that will be installed as part of the OWNER's new water supply system, and a new 30-inch Return Flow Pipeline that will be installed a different segment of the same Return Flow Pipeline being installed as part of this Contract.

3. Contract Package 3 – Booster Pumping Station, Storage and Chemical Facilities: Coordinate construction with construction of a new Booster Pumping Station located on the southwest quadrant of Racine Avenue and Swartz Road in the City of New Berlin that will be installed as part of the OWNER's new water supply system.
4. Contract Package 4 – Return Flow Pumping Station: Coordinate construction with the construction of a new Return Flow Pumping Station located at the City of Waukesha's Clean Water Plant that will be installed to supply flow to the Return Flow Pipeline being installed as part of this Contract.
5. Contract Package 5 – Return Flow Pipeline: Coordinate construction with construction of a new 30-inch Return Flow Pipeline that will interconnect with this Contract in the City of New Berlin and be installed adjacent to this Contract.

1.5 STORAGE

- A. Provide storage conditions subject to approval by the RESIDENT PROJECT REPRESENTATIVE for materials and equipment not incorporated into the Work but included in PAYMENT APPLICATIONS. Submit such storage arrangements in writing to the RESIDENT PROJECT REPRESENTATIVE for approval. Provide adequate and satisfactory security and protection as recommended by respective manufacturers and suppliers of equipment and materials.

1.6 AVAILABILITY OF LAND

- A. The land available for CONTRACTOR's use during the performance of the Work is limited to the area defined and shown.
- B. Employ an area within the defined limits for staging, pipe stringing and truck turnaround areas subject to approval by the RESIDENT PROJECT REPRESENTATIVE.
- C. Restore any site used for an office to original or better condition upon completion of the Work.
- D. The OWNER has acquired temporary and/or permanent easements from several property owners as shown. Obtain the official records of the easement agreements from the RESIDENT PROJECT REPRESENTATIVE prior to commencing work in each easement. Conform operations to constraints described in the agreements. Field stake the limits of the easements at minimum 200-foot intervals and at points of intersection or curvature in stages within 1,500 feet of pipe construction, prior to commencing said construction.
- E. The CONTRACTOR may independently elect to acquire additional land to support construction activities at no additional cost to the OWNER that does not result in additional temporary or permanent wetland impacts.

1.7 CONTRACTOR'S USE OF SITE

- A. In addition to the requirements of Division 0, limit use of site and premises for Work and storage to allow for the following:
 - 1. Coordination of the Work under this Contract with the Work of the other contractors where Work under this Contract encroaches on the Work of other contractors.
 - 2. OWNER occupancy and access to operate existing facilities.
 - 3. Coordination of site use with OWNER and RESIDENT PROJECT REPRESENTATIVE, ENGINEER, and authority having jurisdiction.
 - 4. Responsibility for protection and safekeeping of products under this CONTRACT.
 - 5. Providing additional off site storage at no additional cost to OWNER as needed.
 - 6. Maintain access for properties with one access entrance with limited closures during construction activity with no overnight closures.
 - 7. Conduct construction operations so that inconvenience to the public is minimized.

1.8 WORK SEQUENCE

- A. Through a coordinated effort, construct Work in stages to accommodate the public's use of right-of-way and the OWNER's use of premises as applicable during construction period and in accordance with the sequence of construction constraints specified. Coordinate construction schedules and operations with the RESIDENT PROJECT REPRESENTATIVE. The following sequence of construction constraints has been developed to:
 - 1. Effectively complete the project, and
 - 2. Minimize inconvenience to the public.
- B. Prepare and submit a construction schedule in compliance with these constraints.
- C. Sequence of Construction Constraints
 - 1. Sequencing of Work with other Contract Packages:
 - a. Commence pipe laying at Station 3000+00 and provide restrained ductile iron cap as shown no later than 90 days after Notice to Proceed. Complete pipe laying, pressure and leakage test as specified

in Section 01 45 50, and restore the disturbed area between Station 3000+00 and a point beyond Station 3005+00 within the right-of-way along Westridge Drive no later than 150 days after Notice to Proceed. Do not provide pipeline closure with Contract Package 5, which will be provided by others.

- D. Construct Work in stages to accommodate OWNER's use of premises during construction period and in accordance with the limitations on the sequence of construction. Coordinate construction schedules and operations with RESIDENT PROJECT REPRESENTATIVE.
- E. Coordinate Work of subcontractors.

1.9 ACCESS

- A. OWNER or RESIDENT PROJECT REPRESENTATIVE will access site during entire period of construction. Cooperate with OWNER's representative in construction operations.
- B. The following listed authorities having jurisdiction may access premises during the period of construction. Cooperate with representatives of OWNER, agencies, and municipalities in construction operations.
 - 1. City of Franklin
 - 2. City of Muskego
 - 3. City of New Berlin
 - 4. Milwaukee County
 - 5. Public Service Commission
 - 6. United States Army Corps of Civil Engineers
 - 7. United States Fish and Wildlife Service
 - 8. City of Waukesha
 - 9. Waukesha County
 - 10. Wisconsin Department of Agriculture, Trade and Consumer Protection
 - 11. Wisconsin Department of Transportation
 - 12. Wisconsin Department of Natural Resources

13. Wisconsin Historical Society

- C. Representatives of the WDNR and any other state, county, or local agencies shall have access to the work whenever it is in preparation or progress and provide proper facilities for such access and inspection. WDNR or its authorized representative shall have access to any books, documents, papers, and records of the CONTRACTOR or subcontractor which are pertinent to the project for the purpose of making audit, examination, excerpts, and transcriptions thereof.

1.10 CONSTRUCTION PROGRESS DOCUMENTATION

- A. Identify system interruptions, diversions, bypasses, electrical power service interruptions, and any other critical service interruptions on the construction schedule.

1.11 PERSONNEL

- A. Provide a photo identification (State Photo Identification card or Driver's License), upon request by OWNER's representatives, for employees of any Contractors or Subcontractors, performing Work on any of the premises of any of the facilities of the OWNER.
- B. The OWNER reserves the right to request identification and deny access to the OWNER's facilities to any person, including employees of any Contractor or Subcontractor, who in the OWNER's opinion has not provided proper identification or documentation of the same. Facility access denial, due to lack of proper identification, does not entitle the CONTRACTOR to any damages.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

- A. Starting Work: Start Work within 10 days following the date stated in the Notice to Proceed, unless otherwise stated in the Notice to Proceed, and execute with such progress as may be required to prevent delay to other contractors or to the general completion of the project. Execute Work at such items and in or on such parts of the project, and with such forces, material and equipment, as to complete the Work in the time established by the Contract. Schedule and direct the Work so that it provides an orderly progression to completion within the specified time for completion.

END OF SECTION

(NO TEXT FOR THIS PAGE)

SECTION 01 26 00

CHANGE ORDER, WORK CHANGE DIRECTIVE AND FIELD ORDER PROCEDURES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Definitions
- B. Change Orders
- C. Work Change Directives
- D. Field Orders

1.2 DEFINITIONS

- A. Change Order: Refer to the Change Order definition in Article 1 of the General Conditions.
- B. Work Change Directive: Refer to the Work Change Directive definition in Article 1 of the General Conditions.
- C. Overhead: Overhead is defined as the cost of administration, field office and home office costs, general superintendence, office engineering and estimating costs, other required insurance, materials used in temporary structures (not including form work), additional premiums on the performance bond of the CONTRACTOR, the use of small tools, scheduling costs, and all other costs incidental to the performance of the change or the cost of doing business.
- D. Field Order: Refer to the Field Order definition in Article 1 of the General Conditions.

1.3 CHANGE ORDERS

- A. Initiation of Proposals:
 - 1. From time to time, the OWNER or the RESIDENT PROJECT REPRESENTATIVE may issue a request for a Change Order proposal. The request will contain a description of the intended change with supplementary or revised Drawings and Specifications as applicable, and the projected time for accomplishing the change.

2. The CONTRACTOR may propose a change in the Work by submittal of a Change Order request to the RESIDENT PROJECT REPRESENTATIVE describing the proposed change with a statement of the reason for the change and the effect on the Contract times and price, along with supporting documentation.

B. Execution of a request for a Change Order Proposal:

1. When a proposal is requested for changed work, submit proposal within 14 days following receipt of the request from OWNER or RESIDENT PROJECT REPRESENTATIVE. State the increase or decrease, if any, in Contract Completion times and Contract Price.
2. Explain proposal in sufficient detail to permit review by OWNER.
3. For omitted work, the decrease in the Contract Price will be determined by the RESIDENT PROJECT REPRESENTATIVE and will include appropriate amounts for profit and overhead.
4. The OWNER and RESIDENT PROJECT REPRESENTATIVE will review the proposal and may request additional information and documentation. Provide these items upon request.
5. If the OWNER decides to proceed with the change, the OWNER will issue a Change Order for signature first by the CONTRACTOR and then by the OWNER.
6. The CONTRACTOR will promptly complete the approved change in the Work on receipt of the executed Change Order.
 - a. Failure to sign the Change Order does not relieve the CONTRACTOR from performing the Work if the Change Order is signed by the OWNER.

C. Execution of a change order request:

1. The OWNER and RESIDENT PROJECT REPRESENTATIVE will review the request and may request additional information and documentation. Provide these items upon request.
2. For omitted work, the decrease in the Contract Price will be determined by the RESIDENT PROJECT REPRESENTATIVE and will include appropriate amounts for profit and overhead.
3. If the OWNER decides to proceed with the change, the OWNER will issue a Change Order for signature first by the CONTRACTOR and then by the OWNER.

4. The CONTRACTOR will promptly complete the approved change in the Work on receipt of the executed Change Order.
 - a. Failure to sign the Change Order does not relieve the CONTRACTOR from performing the Work if the Change Order is signed by the OWNER.
- D. Compute the cost of both additive and deductive changes in the Work in accordance with Article 11 of the General Conditions and as follows:
 1. Include the costs of labor crew foreman and general foreman performing or directly supervising the changed Work on the site. Include travel and subsistence, but only to the extent incurred.
 2. To the labor cost add all net premium for Workman's Compensation, taxes pursuant to the Federal Social Security Act, and payments required under State and Federal unemployment laws.
 3. Add necessary extra materials, delivered at the site.
 4. Include rent for plant and equipment at unit rental costs for similar rentals from an independent firm (i.e. a firm which is not owned in whole or in part by the CONTRACTOR). If equipment is owned by CONTRACTOR or rented from a firm in which the CONTRACTOR has an interest, calculate the rent in accordance with the applicable provisions and terms of the current "Cost Reference Guide for Construction Equipment" published by Dataquest.

1.4 WORK CHANGE DIRECTIVES

- A. Initiation by OWNER: OWNER may issue a Work Change Directive with a Notice to Proceed without a prior request for a Change Order Proposal or the CONTRACTOR's signature.
- B. Payment Determination: The OWNER will designate the method of determining the amount of compensation or credit, if any, based on one of the methods contained in Article 15 of the General Conditions.
- C. Timing: Proceed with the change in the Work immediately upon receipt of the Work Change Directive.
- D. Addition to Contract: The Work Change Directive Orders will be incorporated into the Contract Documents via a Change Order at a later date.

1.5 FIELD ORDERS

- A. The RESIDENT PROJECT REPRESENTATIVE may issue a written order at any time during the course of construction.
- B. Field Orders serve as documentation of minor changes in the work not involving a change in the Contract Price or Times.
- C. Proceed with the change described in the Field Order immediately upon receipt of the field order.
- D. Field orders will be delivered to CONTRACTOR's on-site representative and are effective upon receipt.
- E. If CONTRACTOR is of the opinion that the field order affects either the contract price or time, CONTRACTOR shall provide written notice to RESIDENT PROJECT REPRESENTATIVE within 48 hours of receiving the field order.
- F. During Field Order Work, CONTRACTOR to maintain daily time and material records that are signed off by Resident Project Representative. These records are to be submitted to OWNER when requested.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

CHANGE ORDER FORM

CHANGE ORDER NO. _____

OWNER: Waukesha Water Utility

DATE: _____

PROJECT: _____

CONTRACTOR: _____

THE FOLLOWING CHANGES ARE HEREBY MADE TO THE CONTRACT DOCUMENTS:

DESCRIPTION:

REASON FOR CHANGE:

<u>CONTRACT PRICE</u>	<u>CONTRACT TIME</u>	
	<u>Substantial Completion Date</u>	<u>Final Completion Date</u>
ORIGINAL:	ORIGINAL:	
PREVIOUS C.O.s:	PREVIOUS C.O.s:	
THIS C.O. Add / Deduct:	THIS C.O.:	
REVISED CONTRACT PRICE:	REVISED CONTRACT TIME:	

It is agreed by the Contractor that this Change Order includes any and all costs associated with or resulting from the change(s) ordered herein, including all impact, delays and acceleration costs. Other than the dollar amount and time allowance listed above, there shall be no further time or dollar compensation as a result of this Change Order.

THIS DOCUMENT WILL BECOME AN AMENDMENT TO THE CONTRACT AND ALL
STIPULATIONS AND COVENANTS OF THE CONTRACT SHALL APPLY HERETO.

Waukesha Water Utility:

BY: _____
Name, Title

Date

Contractor

BY: _____
Name, Title

Date

END OF SECTION

(NO TEXT FOR THIS PAGE)

SECTION 01 29 00

MEASUREMENT AND PAYMENT

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Schedule of Values
- B. Application for Payment
- C. Contract Items
- D. Allowance Items

1.2 REFERENCES

- A. Codes and standards referred to in this Section are:
 - 1. State of Wisconsin Department of Transportation (WisDOT), Standard Specifications for Highway and Structure Construction, including the latest supplemental specifications and recurring special provisions, referred to as the "State Specifications"

1.3 SCHEDULE OF VALUES

- A. Approval of Schedule: Submit for approval a preliminary schedule of values, in duplicate, for the Work. Prepare preliminary schedule in accordance with Paragraph 2.03 of the General Conditions. Submit preliminary schedule of values within 10 calendar days after date established in Notice to Proceed. Submit final schedule of values in accordance with Paragraph 2.05 of the General Conditions.
- B. Format: Utilize a format similar to the Bid Form. Identify each line item with number and title in accordance with the Contract Items listed in this Section. Identify site mobilization, bonds and insurance. Include within each line item, a direct proportional amount of CONTRACTOR's overhead and profit.
- C. Revisions: With each Application for Payment revise schedule to list approved Change Orders.

1.4 APPLICATION FOR PAYMENT

- A. Required Copies: Submit three copies of each application on EJCDC Form C-620 Contractors Application for Payment or approved equal in accordance with General Conditions 15.01. Present required information in typewritten form or on

electronic media printout. Use data from approved Schedule of Values and include the following items with each Application for Payment:

1. Certified Statement / Sworn affidavit
 2. Pay request
 3. Waivers
 4. Certificate of payroll
 5. Subcontract payment details
 6. Updated construction schedule.
 7. Survey coordinates and elevations in .dwg base files signed and sealed by a land surveyor registered in the State of Wisconsin of the items specified in this Section for which payment is being requested in accordance with the requirements of Section 01 78 00. Identify the location of the area for which the .dwg record data is being submitted, such as by street name or area map. Revise .dwg base files based on comments provided and include revisions marked in proceeding submittals.
 8. Red lines of "Record Drawings" updated for the Work for which payment is being requested in accordance with the requirements of Section 01 78 00.
 9. A separate schedule for Materials Stored showing line item, description, previous value received, value incorporated into the Work and present value. Include a bill of sale, invoice, or other documentation in the Application for Payment warranting that OWNER has received the materials and equipment free and clear of Liens, and evidence that the materials and equipment are covered by property insurance, a warehouse bond, or other arrangements to protect OWNER's interest therein. Materials and equipment stored offsite must be stored in a licensed, bonded warehouse and subject to inspection by the RESIDENT PROJECT REPRESENTATIVE with one working day's notice.
 10. A list of each authorized Change Order as an extension on continuation sheet, listing Change Order number and dollar amount as for an original item of Work.
- B. Submit application for payment to RESIDENT PROJECT REPRESENTATIVE on, or before, the first of each month.
- C. Execute certification by signature of authorized officer.
- D. The payment will be reduced by the amount of the retainage set forth in the contract agreement.

- E. Final Payment: Prepare Application for Final Payment as required in Paragraph 15.06 of the General Conditions.

1.5 CONTRACT ITEMS

A. Contract Item 1 – Mobilization and Demobilization

1. Description: Under the Contract Item for Mobilization and Demobilization, furnish labor, materials, equipment and services to perform those operations necessary for the movement of personnel, equipment, supplies, project sign, preconstruction videos, and incidentals to and from the project site, for establishment of temporary offices, buildings, safety equipment, sanitary facilities and first aid supplies as required by the specifications and state and local law and regulations, and implementing security requirements. Include the costs of bonds and any required insurance, costs for obtaining applicable permits, and any other pre-construction or post-construction expense necessary to the start or completion of the Work, excluding the cost of construction materials, under this Contract Item. Include the cost of other Work as shown and specified that is not specifically included under other Contract Items under this Contract Item.
2. Payment: Payment for Mobilization and Demobilization will be made at the lump sum price bid for Contract Item 1 according to the following schedule. Any remaining amount will be paid upon completion of the Work on the Project, including final punch list Work items. Payment will be limited to four percent of the original Computed Price for the Project.

Percent of Original Computed Price Earned*	Allowable Percent of the Lump Sum price for Mobilization and Demobilization
0	** Cost of bonds
5	Balance of first 50%
10	Balance of first 80%
95	Remaining 20% for Demobilization

*Work installed and not including materials stored.

**As verified by receipted invoice.

B. Contract Item 2 – Maintenance of Traffic

1. Description: Under the Contract Item for Maintenance of Traffic, furnish labor, materials, equipment, and services to provide Maintenance of Traffic in accordance to the requirements of Section 643 of the State Specifications and as shown, specified, or directed.
2. Payment: Payment for Maintenance of Traffic will be made at the lump sum price for Contract Item 2 multiplied by the percent of the original Computed Price earned.

C. Contract Items 3A, 3B, and 3C – Ductile Iron Return Flow Pipeline (Open Cut)

1. Description: Under the Contract Items for Ductile Iron Return Flow Pipeline (Open Cut), furnish labor, materials, equipment, and services to provide the Return Flow Pipeline as shown, specified, or directed.

The Work includes laying schedule; alignment survey layout; clearing and grubbing; removal of trees, shrubs, and other plantings; root pruning; pavement removal in accordance with Sections 204 and 205 of the State Specifications; excavation; sheeting, shoring, and bracing; removal of water; pipe, fittings, and appurtenances; pipework and jointing; joint continuity bonding; tracer wire; tracer boxes; polyethylene encasement; pipe bedding; backfill, consisting of common fill (Contract Item 3A), select fill (Contract Item 3B), and flowable fill and flowable fill with cement (Contract Item 3C); geotextile fabric; insulation; marking tape; concrete encasement; temporary fencing; survey for record drawings; compliance with permits; dust control; sweeping; temporary and nonpermanent pavement; protection, repair, and replacement of existing sanitary sewers and services, water main, storm sewers, underdrains, gas lines, high voltage electric cables, and other utilities; reconstruction of ditches/swales; re-grading and restoration of access areas and haul roads; removal and disposal of surplus excavated material; monitoring structures and utilities for settlement; protection of existing structures; protection and replacement of surface features, including fences and mailboxes; temporary blow-offs; testing; water for testing; installation and removal of plugs, bulkheads, and caps; pipeline closure to adjoining Contract Packages; placing the new Return Flow Pipeline in service; and other Work, materials, equipment, and easement requirements necessary for the construction of the Return Flow Pipeline complete in place as shown, specified, and directed.

Merge costs of the various classes of pipe shown or specified into the unit price per linear foot for Contract Items 3A, 3B, and 3C.

The Work does not include restoration of lawn, landscape, wetland, or agricultural areas damaged or destroyed as a result of the Work; permanent pavement; curb and gutter; butterfly valves; blow-off assemblies and pipeline branches to blow-off assemblies; air valve assemblies and pipeline outlets to air valve assemblies; vaults; additional earth excavation, rock excavation, common fill, select fill, flowable fill, and pipe bedding; crossings installed via horizontal directional drilling, including high density polyethylene (HDPE) pipe, ductile iron reducers, and HDPE adapters, unless a longer crossing is provided than shown; crossings installed via jacking and boring, including steel casing pipes and ductile iron carrier pipes; and other Work that will be paid for under other Contract Items.

2. Measurement for Payment: The length of the Ductile Iron Return Flow Pipeline (Open Cut) to be measured for payment under Contract Items 3A,

3B, and 3C will be the actual linear feet of pipe, fittings, adapters and specials placed, measured along a horizontal projection of the centerline of the pipe, with no deduction for the length of valves or other appurtenances. The measured length will include fittings, but will not include the length of crossings installed by trenchless construction, including via horizontal directional drilling, unless a longer crossing is provided than shown, and jacking and boring, which will be paid for under separate Contract Items.

3. Payment: Payment for the Ductile Iron Return Flow Pipeline (Open Cut) will be made at the Contract unit prices per linear foot for Contract Items 3A, 3B, and 3C as follows:

- a. Contract Item 3A: Ductile Iron Return Flow Pipeline (Open Cut), 30-Inch, Common Fill
- b. Contract Item 3B: Ductile Iron Return Flow Pipeline (Open Cut), 30-Inch, Select Fill
- c. Contract Item 3C: Ductile Iron Return Flow Pipeline (Open Cut), 30-Inch, Flowable Fill and Flowable Fill with Cement

D. Contract Item 4 – 36-Inch HDPE Return Flow Pipeline (Horizontal Directional Drilling)

1. Description: Under the Contract Item for 36-Inch HDPE Return Flow Pipeline (Horizontal Directional Drilling), furnish labor, materials, equipment, and services to provide the Return Flow Pipeline in crossings installed by horizontal directional drilling as shown, specified, or directed.

The Work includes laying schedule; alignment survey layout; preparation of borehole plans; for entry and exit pits, clearing and grubbing, removal of trees, shrubs, and other plantings, root pruning, pavement removal in accordance with Sections 204 and 205 of the State Specifications, excavation, sheeting, shoring, and bracing, backfill, and geotextile fabric; removal of water; pipe, fittings, and appurtenances, including HDPE pipe, ductile iron reducers, and HDPE adapters; establishing boreholes; reaming; skids and rails; containment of spoil and drilling fluids; pipework and jointing; connections to adjacent new Ductile Iron Return Flow Pipeline; joint continuity bonding; tracer wire; polyethylene encasement; temporary fencing; survey for record drawings; compliance with permits; protection, repair, and replacement of existing sanitary sewers and services, water main, storm sewers, underdrains, gas lines, high voltage electric cables, and other utilities; removal and disposal of surplus excavated material; monitoring structures and utilities for settlement; protection of existing structures; protection and replacement of surface features, including fences and mailboxes; temporary blow-offs; testing; water for testing; installation and removal of plugs, bulkheads, and caps; and other Work, materials, and

equipment necessary for the construction of the Return Flow Pipeline segments installed via horizontal directionally drilling complete in place as shown, specified, and directed.

The Work does not include excavation, pipe bedding, backfill, and appurtenant Work necessary for construction of the pipeline installed in open cut trenches and other similar construction within payment limits shown; insulation; restoration of lawn, landscape, wetland, or agricultural areas damaged or destroyed as a result of the Work; permanent pavement; curb and gutter; crossings installed via jacking and boring; and other Work that will be paid for under other Contract Items.

2. Measurement for Payment: The length of 36-Inch HDPE Return Flow Pipeline (Horizontal Directional Drilling) to be measured for payment under Contract Item 4 will be the actual linear feet of pipe, fittings, adapters, and specials placed, measured along a horizontal projection of the centerline of the pipe and as follows:
 - a. If a shorter crossing is provided than shown, the length of 36-Inch HDPE Return Flow Pipeline (Horizontal Directional Drilling) to be measured for payment will be the actual linear feet of pipe, fittings, adapters, and specials placed. The remainder of the crossing shown will be measured for payment under Contract Item 3A, 3B, 3C, or 3D.
 - b. If a longer crossing is provided than shown, the additional length of 36-Inch HDPE Return Flow Pipeline (Horizontal Directional Drilling) will be measured for payment under Contract Item 3A, 3B, 3C, and 3D.
3. Payment: Payment for 36-Inch HDPE Return Flow Pipeline (Horizontal Directional Drilling) will be made at the Contract unit price per linear foot for Contract Item 4.

E. Contract Item 5 – 30-Inch Ductile Iron Return Flow Pipeline in Steel Casing (Jacking and Boring), Road

1. Description: Under Contract Item 5 for 30-Inch Ductile Iron Return Flow Pipeline in Steel Casing (Jacking and Boring), Road, furnish labor, materials, equipment, and services to provide the Return Flow Pipeline in casing pipe at crossings by jacking and boring as shown, specified, or directed.

The Work includes jacking and receiving pits, including clearing and grubbing, removal of trees, shrubs, and other plantings, root pruning, pavement removal in accordance with Sections 204 and 205 of the State Specifications, excavation, sheeting, shoring, and bracing, backfill, and geotextile fabric; removal of water; casing and carrier pipe, fittings, and appurtenances; pipework and jointing; connections to adjacent new Ductile

Iron Return Flow Pipeline; joint continuity bonding; tracer wire; polyethylene encasement; jacking; casing spacers; grout; end seals; railroad flagging operations; temporary fencing; survey for record drawings; compliance with permits; protection, repair, and replacement of existing sanitary sewers and services, water main, storm sewers, underdrains, gas lines, high voltage electric cables, and other utilities; removal and disposal of surplus excavated material; monitoring structures and utilities for settlement; protection of existing structures; protection and replacement of surface features, including fences and mailboxes; temporary blow-offs; testing; water for testing; installation and removal of plugs, bulkheads, and caps; and other Work, materials, and equipment necessary for the construction of the Return Flow Pipeline segments installed via jacking and boring complete in place as shown, specified, and directed.

Merge costs of the various classes of pipe shown or specified into the unit price per linear foot for Contract Item 5.

The Work does not include excavation, pipe bedding, backfill, and appurtenant Work necessary for construction of the pipeline installed in open cut trenches and other similar construction within payment limits shown; insulation; restoration of lawn, landscape, wetland, or agricultural areas damaged or destroyed as a result of the Work; permanent pavement; curb and gutter; crossings installed via horizontal directional drilling; and other Work that will be paid for under other Contract Items.

2. Measurement for Payment: The length of 30-Inch Ductile Iron Return Flow Pipeline in Steel Casing (Jacking and Boring), Road to be measured for payment under Contract Item 5 will be the actual length placed in linear feet measured along a horizontal projection of the centerline of the casing pipe.
3. Payment: Payment for 30-Inch Ductile Iron Return Flow Pipeline in Steel Casing (Jacking and Boring), Road will be made at the Contract unit price per linear foot for Contract Item 5.

F. Contract Items 6A and 6B – Butterfly Valves

1. Description: Under Contract Items 6A and 6B for Butterfly Valves, furnish labor, materials, equipment and services to provide Butterfly Valves as shown, specified, or directed.

The Work includes butterfly valves and appurtenances; jointing, including joint restraint, actuators, bolts and gaskets; polyethylene encasement; for Contract Item 6B, select fill bedding for vaults, vaults, manhole frame and cover, and pipe supports; valve boxes; valve pads; I.D. plates; survey for record drawings; testing; and other Work necessary for the construction of the Butterfly Valves complete in place as shown, specified, and directed.

The Work does not include clearing and grubbing; removal of trees, shrubs, and other plantings; root pruning; pavement removal; excavation; sheeting, shoring, and bracing; removal of water; pipe, fittings, and appurtenances; joint continuity bonding; tracer wire; pipe bedding; backfill; geotextile fabric; insulation; marking tape; restoration of lawn, landscape, wetland, or agricultural areas damaged or destroyed as a result of the Work; permanent pavement; curb and gutter; and other Work that will be paid for under other Contract Items.

2. Measurement for Payment: The quantities of Butterfly Valves to be measured for payment under Contract Items 6A and 6B will be the actual number of each type of butterfly valve placed, as shown and specified, completed, and accepted.
3. Payment: Payment for Butterfly Valves will be made at the Contract unit price for each valve for Contract Items 6A and 6B as follows:
 - a. Contract Item 6A: Butterfly Valves, 30-Inch, Direct Buried
 - b. Contract Item 6B: Butterfly Valves, 30-Inch, In Vault

G. Contract Items 7A and 7B – Air Valve Assemblies

1. Description: Under the Contract Items 7A and 7B for Air Valve Assemblies, furnish labor, materials, equipment, and services to provide Air Valve Assemblies as shown, specified, or directed.

The Work includes air valves; vent pipe, fittings, and appurtenances; connections to pipeline and pipeline sections and outlets to air valve assemblies; corporation stops and butterfly valves; pipework and jointing; select fill bedding for vaults; vaults; manhole frame and cover; pipe supports; I.D. plates; survey for record drawings; testing; and other Work necessary for the construction of the Air Valve Assemblies complete in place as shown, specified, and directed.

For buried vent pipe, fittings, and appurtenances, the Work includes clearing and grubbing; removal of trees, shrubs, and other plantings; root pruning; pavement removal in accordance with Sections 204 and 205 of the State Specifications; excavation; sheeting, shoring, and bracing; removal of water; tracer wire; pipe bedding; backfill; geotextile fabric; marking tape; concrete encasement; compliance with permits; temporary and nonpermanent pavement; protection, repair, and replacement of existing sanitary sewers and services, water main, storm sewers, underdrains, gas lines, high voltage electric cables, and other utilities; removal and disposal of surplus excavated material; monitoring structures and utilities for settlement; protection of existing structures; protection and replacement of surface features, including fences and mailboxes; and other Work necessary for the construction of the

vent pipe, fittings, and appurtenances for Air Valve Assemblies complete in place as shown, specified, and directed.

The Work does not include restoration of lawn, landscape, wetland, or agricultural areas damaged or destroyed as a result of the Work; permanent pavement; curb and gutter; other Work that will be paid for under other Contract Items; and the following:

- a. Ductile iron pipe, fittings, and appurtenances other than the pipeline sections, outlets, and butterfly valves between the pipeline and the air valve assemblies.
 - b. For vaults, clearing and grubbing; removal of trees, shrubs, and other plantings; root pruning; pavement removal; excavation; sheeting, shoring, and bracing; removal of water; backfill; and geotextile fabric.
2. Measurement for Payment: The quantities of Air Valve Assemblies to be measured for payment under Contract Items 7A and 7B will be the actual number of each type of air valve assembly placed, as shown and specified, completed, and accepted.
 3. Payment: Payment for Air Valve Assemblies will be made at the Contract unit price for each air valve assembly for Contract Items 7A and 7B as follows:
 - a. Contract Item 7A: Air Valve Assemblies, Type I
 - b. Contract Item 7B: Air Valve Assemblies, Type II

H. Contract Item 8 – Blow-Off Assemblies

1. Description: Under the Contract Item for Blow-Off Assemblies, furnish labor, materials, equipment, and services to provide Blow-Off Assemblies as shown, specified, or directed.

The Work includes clearing and grubbing; removal of trees, shrubs, and other plantings; root pruning; pavement removal in accordance with Sections 204 and 205 of the State Specifications; excavation; sheeting, shoring, and bracing; removal of water; blow-off pipe, fittings, gate valves, and appurtenances; branch fittings and connections to pipeline; pipework and jointing; joint continuity bonding; tracer wire; polyethylene encasement; valve boxes; valve pads; I.D. plates; pipe bedding; backfill; geotextile fabric; insulation; marking tape; concrete encasement; temporary fencing; survey for record drawings; compliance with permits; temporary and nonpermanent pavement; protection, repair, and replacement of existing sanitary sewers and services, water main, storm sewers, underdrains, gas lines, high voltage electric cables, and other utilities; removal and disposal of surplus excavated material; monitoring structures and utilities for

settlement; protection of existing structures; protection and replacement of surface features, including fences and mailboxes; temporary blow-offs; testing; water for testing; installation and removal of plugs, bulkheads, and caps; and other Work necessary for the construction of the Blow-Off Assemblies complete in place as shown, specified, and directed.

The Work does not include excavation, pipe bedding, backfill, and appurtenant Work necessary for construction of the pipeline installed in open cut trenches and other similar construction within payment limits shown other than the Work required for the Blow-Off Assemblies and branch fittings and connections between the pipeline and Blow-Off Assemblies; restoration of lawn, landscape, wetland, or agricultural areas damaged or destroyed as a result of the Work; permanent pavement; curb and gutter; and other Work that will be paid for under other Contract Items.

2. Measurement for Payment: The quantity of Blow-Off Assemblies to be measured for payment under Contract Item 8 will be the actual number of Blow-Off Assemblies placed as shown and specified, completed, and accepted.
3. Payment: Payment for Blow-Off Assemblies will be made at the Contract unit price for each blow-off assembly for Contract Item 8.

I. Contract Item 9 – Cathodic Protection

1. Description: Under the Contract Item for Cathodic Protection, furnish labor, materials, equipment, and services to provide Cathodic Protection as shown, specified, or directed.

The Work includes anodes; test stations; terminal board connections; reference electrodes; flange isolation kits; wires and cables; exothermic welding; select fill bedding for vaults; vaults; manhole frame and cover; pipe supports; I.D. plates; survey for record drawings; services of a Cathodic Protection (CP) Technician; testing; and other Work necessary for the construction of the Cathodic Protection complete in place as shown, specified, and directed.

The Work does not include clearing and grubbing; removal of trees, shrubs, and other plantings; root pruning; pavement removal; excavation; sheeting, shoring, and bracing; removal of water; pipe, fittings, and appurtenances except for flange isolation kits; joint continuity bonding; tracer wire; pipe bedding; backfill; geotextile fabric; insulation; marking tape; restoration of lawn, landscape, wetland, or agricultural areas damaged or destroyed as a result of the Work; permanent pavement; curb and gutter; and other Work that will be paid for under other Contract Items.

2. Payment: Payment for Cathodic Protection will be made at the lump sum price for Contract Item 9 multiplied by the percent of the original Computed Price earned up to a maximum of 90% of the lump sum price for Contract Item 9. Payment for the remainder of Contract Item 9 will be made after successful completion of post-installation testing as specified in Section 33 05 58 Cathodic Protection.

J. Contract Item 10 – Base Course

1. Description: Under the Contract Item for Base Course, furnish labor, materials, equipment, and services to provide aggregate base courses in accordance to the requirements of Sections 305 and 350 of the State Specifications and as shown, specified, or directed.
2. Measurement for Payment: The quantity of Base Course to be measured for payment under Contract Item 10 will be the actual tons of Base Course permanently placed within the payment limits as shown and specified, completed, and accepted.
3. Payment: Payment for Base Course will be made at the Contract unit price per ton for Contract Item 10.

K. Contract Items 11 – Road Pavement

1. Description: Under the Contract Items for Road Pavement, furnish labor, materials, equipment, and services to provide road pavement replacement in accordance to the requirements of Section 415 and 450 of the State Specifications and as shown, specified, or directed.
2. Measurement for Payment: The quantity of Road Pavement to be measured for payment under Contract Item 11A will be the actual tons of Road Pavement permanently placed within the payment limits as shown and specified, completed, and accepted. The quantity of Road Pavement to be measured for payment under Contract Items 11B and 11C will be the actual square yards of Road Pavement permanently placed within the payment limits as shown and specified, completed, and accepted.
3. Payment: Payment for Road Pavement will be made at the Contract unit price per ton for Contract Item 11A and the Contract unit price per square yard for Contract Items 11B and 11C as follows:
 - a. Contract Item 11A: Road Pavement, Asphalt
 - b. Contract Item 11B: Road Pavement, 9-Inch Concrete
 - c. Contract Item 11C: Road Pavement, Mill and Overlay

L. Contract Item 12 – Final Pavement Markings

1. Description: Under the Contract Item for Final Pavement Markings, furnish labor, materials, equipment, and services to provide pavement markings in accordance with the requirements of Section 646 of the State Specifications and as shown, specified, or directed.
2. Payment: Payment for Final Pavement Markings will be made at the lump sum price for Contract Item 12 multiplied by the percent of the original Computed Price earned.

M. Contract Item 13 – Curb and Gutter

1. Description: Under the Contract Item for Curb and Gutter, furnish labor, materials, equipment, and services to provide curb and gutter replacement in accordance to the requirements of Section 601 of the State Specifications and as shown, specified, or directed.
2. Measurement for Payment: The quantity of Curb and Gutter to be measured for payment under Contract Item 13 will be the actual linear feet of Curb and Gutter permanently placed within the payment limits as shown and specified, completed, and accepted.
3. Payment: Payment for Curb and Gutter will be made at the Contract unit price per linear foot for Contract Item 13.

N. Contract Item 14 – Pedestrian Pavement

1. Description: Under the Contract Items for Pedestrian Pavement, furnish labor, materials, equipment, and services to provide pedestrian pavement replacement in accordance to the requirements of Section 601 of the State Specifications and as shown, specified, or directed.
2. Measurement for Payment: The quantity of Pedestrian Pavement to be measured for payment under Contract Item 14A will be the actual tons of Pedestrian Pavement permanently placed within the payment limits as shown and specified, completed, and accepted. The quantity of Pedestrian Pavement to be measured for payment under Contract Items 14B will be the actual square yards of Pedestrian Pavement permanently placed within the payment limits as shown and specified, completed, and accepted.
3. Payment: Payment for Pedestrian Pavement will be made at the Contract unit price per ton for Contract Item 14A and the Contract unit price per square yard for Contract Item 14B as follows:
 - a. Contract Item 14A: Pedestrian Pavement, Asphalt
 - b. Contract Item 14B: Pedestrian Pavement, Concrete Sidewalk

O. Contract Items 15A and 15B – Driveway Pavement

1. Description: Under the Contract Items for Driveway Pavement, furnish labor, materials, equipment, and services to provide driveway pavement replacement in accordance to the requirements of Section 416 and 450 of the State Specifications and as shown, specified, or directed.
2. Measurement for Payment: The quantity of Driveway Pavement to be measured for payment under Contract Item 15A will be the actual tons of Driveway Pavement permanently placed within the payment limits as shown and specified, completed, and accepted. The quantity of Driveway Pavement to be measured for payment under Contract Items 15B will be the actual square yards of Driveway Pavement permanently placed within the payment limits as shown and specified, completed, and accepted.
3. Payment: Payment for Driveway Pavement will be made at the Contract unit price per ton for Contract Item 15A and the Contract unit price per square yard for Contract Item 15B as follows:
 - a. Contract Item 15A: Driveway Pavement, Asphalt
 - b. Contract Item 15B: Driveway Pavement, Concrete

P. Contract Item 16 – Erosion and Sedimentation Control

1. Description: Under the Contract Item for Erosion and Sedimentation Control, furnish labor, materials, equipment, and services to provide erosion and sedimentation control and slope protection to support construction of the pipeline in accordance with Federal, State, and local regulations and as shown, specified, or directed. The Work includes installation, maintenance, replacement and removal of approved erosion and sediment control and slope protection devices from commencement to final acceptance.
2. Payment: Payment for Erosion and Sedimentation Control will be made at the lump sum price for Contract Item 16 multiplied by the percent of the original Computed Price earned.

Q. Contract Item 17 – Landscape, Wetland, and Agricultural Restoration

1. Description: Under the Contract Item for Landscape, Wetland, and Agricultural Restoration, furnish labor, materials, equipment, and services to replace and maintain areas disturbed or damaged by construction activities not located under pavement and appurtenant Work as shown, specified, or directed. The Work includes providing topsoil; seed; sod; protection, storage, and replacement of trees, shrubs, and other plantings; fertilizer; water; and other Work, materials and equipment necessary to restore areas disturbed or damaged by construction activities not located under pavement complete in place as shown, specified, and directed.

2. Measurement for Payment: The quantity of Landscape, Wetland, and Agricultural Restoration to be measured for payment under Contract Item 17 will be the actual square yards of land restored within the payment limits shown and specified, completed, and accepted. Merge costs for landscape, wetland, and agricultural restoration done beyond the payment limits shown into the unit price per square yard for Contract Item 17.
3. Payment: Payment for Landscape, Wetland, and Agricultural Restoration will be made at the Contract unit price per square yard for Contract Item 17.

R. Contract Item 18 – Outfall Facilities

1. Description: Under the Contract Item for Outfall Facilities, furnish labor, materials, equipment, and services to provide the outfall facilities as shown, specified, or directed.

The Work includes laying schedule; alignment survey layout; clearing and grubbing; removal of trees, shrubs, and other plantings; root pruning; pavement removal in accordance with Sections 204 and 205 of the State Specifications; excavation; sheeting, shoring, and bracing; removal of water; pipe, fittings, and appurtenances for new Outfall Discharge Pipeline and appurtenance piping; pipework and jointing; new outfall structure, including construction within the limits of the Root River 100-year floodplain; joint continuity bonding; tracer wire; polyethylene encasement; pipe bedding; backfill; geotextile fabric; insulation; marking tape; concrete encasement; temporary fencing; new reareation structure, including structural and architectural work related to the building construction, electrical, and HVAC; instrumentation, and controls; survey for record drawings; erosion and sediment control; site grading; restoration of lawn, landscape, wetland, or agricultural areas damaged or destroyed as a result of the Work; sight lighting; permanent pavement; curb and gutter; compliance with permits; temporary and nonpermanent pavement; protection, repair, and replacement of existing sanitary sewers and services, water main, storm sewers, underdrains, gas lines, high voltage electric cables, and other utilities; protection, storage, and replacement of trees, shrubs, and other plantings; reconstruction of ditches/swales; re-grading and restoration of access areas and haul roads; removal and disposal of surplus excavated material; monitoring structures and utilities for settlement; protection of existing structures; protection and replacement of surface features, including fences and mailboxes; temporary blow-offs; testing; water for testing; installation and removal of plugs, bulkheads, and caps; pipeline closure to adjoining Contract Packages; placing the new Outfall Facilities in service; and other Work, materials, equipment, and easement requirements necessary for the construction of the new Outfall Facilities complete in place as shown, specified, and directed.

The Work does not include Work necessary for construction of the pipeline installed in open cut trenches and other similar construction within payment limits shown north of the north wall of the new reeration structure, including excavation, pipe, fittings, and appurtenances, pipework and jointing, pipe bedding, backfill, restoration of lawn, landscape, wetland, or agricultural areas damaged or destroyed as a result of the Work, permanent pavement, and curb and gutter and other Work that will be paid for under other Contract Items.

2. Payment: Payment for Outfall Facilities will be made at the lump sum price for Contract Item 18 in accordance with the actual Work placed.

S. Contract Item 19 – Process Control System Integration

1. Description: Under the Contract Item for Process Control System Integration, furnish labor, materials, equipment, and services to provide the process control system integration as shown, specified, or directed. The Work includes PLC panel; switch; cellular communication equipment; programming; integration; shop drawings; factory testing; field testing; startup; as-built drawings; operation and maintenance manuals; training; and other Work, materials, and equipment necessary for the construction of the Process Control System Integration complete in place as shown, specified, and directed.
2. Payment: Payment for Process Control System Integration will be made at the pre-negotiated lump sum price for Contract Item 19 in accordance with the actual Work placed.

T. Contract Item 20 – 18-Inch Sanitary Sewer (Open Cut), Select Fill

1. Description: Under the Contract Item for 18-Inch Sanitary Sewer (Open Cut), Select Fill, furnish labor, materials, equipment, and services to provide the 18-Inch Sanitary Sewer as shown, specified, or directed.

The Work includes laying schedule; alignment survey layout; excavation below an elevation 6-inches below the invert of the adjacent Return Flow Pipeline; sheeting, shoring, and bracing; removal of water; pipe, fittings, and appurtenances; pipework and jointing; tracer wire; pipe bedding; backfill, consisting of select fill up to an elevation 6-inches below the invert of the adjacent Return Flow Pipeline; geotextile fabric; marking tape; survey for record drawings; compliance with permits; protection, repair, and replacement of existing sanitary sewers and services, water main, storm sewers, underdrains, gas lines, high voltage electric cables, and other utilities; removal and disposal of surplus excavated material; monitoring structures and utilities for settlement; protection of existing structures; pressure testing; water for testing; placing the new 18-Inch Sanitary Sewer in service; and other Work, materials, and equipment, necessary for the

construction of the 18-Inch Sanitary Sewer complete in place as shown, specified, and directed.

The Work does not include Work necessary for construction of the Return Flow Pipeline installed in open cut trenches and other similar construction, including clearing and grubbing, removal of trees, shrubs, and other plantings, root pruning, pavement removal in accordance with Sections 204 and 205 of the State Specifications, excavation above an elevation 6-inches below the invert of the adjacent Return Flow Pipeline, joint continuity bonding, polyethylene encasement, and pipe bedding and backfill above an elevation 6-inches below the invert of the adjacent Return Flow Pipeline; temporary fencing; temporary and nonpermanent pavement; protection and replacement of surface features, including fences, retaining walls, and mailboxes; restoration of lawn, landscape, wetland, or agricultural areas damaged or destroyed as a result of the Work; permanent pavement; curb and gutter; butterfly valves; blow-off assemblies and pipeline branches to blow-off assemblies; air valve assemblies and pipeline outlets to air valve assemblies; manholes; vaults; additional earth excavation, rock excavation, common fill, select fill, flowable fill, and pipe bedding; and other Work that will be paid for under other Contract Items.

2. Measurement for Payment: The length of the 18-Inch Sanitary Sewer (Open Cut), Select Fill to be measured for payment Contract Item 20 will be the actual linear feet of pipe, fittings, adapters and specials placed, measured along a horizontal projection of the centerline of the pipe, with no deduction for manholes or other appurtenances.
3. Payment: Payment for the 18-Inch Sanitary Sewer (Open Cut), Select Fill will be made at the Contract unit price per linear foot for Contract Item 20.

U. Contract Item 21 – Sewer Manholes

1. Description: Under the Contract Item for Sewer Manholes, furnish labor, materials, equipment, and services to provide the sewer manholes as shown, specified, or directed.

The Work includes excavation from an elevation 6-inches below the invert of the adjacent Return Flow Pipeline, sheeting, shoring, and bracing, select fill bedding for manholes; epoxy lined manholes from base to grade; manhole frame, cover, adjustment rings, chimney stacks, and other appurtenances; bases and benches; coring of manhole to accommodate piping, sealing the inlet and outlet piping including rubber boots; survey for record drawings; vacuum testing; and other Work necessary for the construction of the Sewer Manholes complete in place as shown, specified, and directed.

The Work does not include clearing and grubbing; removal of trees, shrubs, and other plantings; root pruning; pavement removal; removal of water;

pipe, fittings, and appurtenances; tracer wire; pipe bedding; backfill; geotextile fabric; marking tape; restoration of lawn, landscape, wetland, or agricultural areas damaged or destroyed as a result of the Work; pavement; curb and gutter; and other Work that will be paid for under other Contract Items.

2. Measurement for Payment: The quantity of Sewer Manholes to be measured for payment under Contract Item 21 will be the actual number of sewer manholes placed, as shown and specified, completed, and accepted.
3. Payment: Payment for Sewer Manholes will be made at the Contract unit price for each manhole for Contract Item 21.

V. Contract Item 22 – 18-Inch Sanitary Sewer Connection to Existing System

1. Description: Under the Contract Item for 18-Inch Sanitary Sewer Connection to Existing System, furnish labor, materials, equipment, and services to provide the necessary Tie-Ins from the existing sanitary sewer pipes to the new 18-Inch Sanitary Sewer as shown, specified, or directed.

The Work includes excavation for tie-in locations, both at the upstream locations and the downstream location; excavations; sheeting, shoring, and bracing; removal of water; drop pipe, fittings, and appurtenances; protection and repair of existing sanitary sewers that may have been damaged during tie-in activities; cutting into existing pipe or structures to facilitate tie-ins; removal; and other Work, materials, and equipment, necessary for the tie-in of the new 18-Inch Sanitary Sewer to the existing sewage collection system, complete in place as shown, specified, and directed.

2. Payment: Payment for 18-Inch Sanitary Sewer Connection to Existing System will be made at the lump sum price for Contract Item 22 in accordance with the actual Work placed.

W. Contract Item 23 – 60th Street Lift Station Bypass Pumping

1. Description: Under the Contract Item for 60th Street Lift Station Bypass Pumping, furnish labor, materials, equipment, and services to provide the necessary bypass pumping to accommodate construction of the new 18-Inch Sanitary Sewer.

The Work includes preparation of bypass pumping plan, set-up of necessary pumping equipment and temporary piping including necessary power source for pumps; plugging existing sanitary sewers; installation and removal of plugs, bulkheads, and caps; operation and monitoring of the bypass pumping equipment; clean-up and removal of bypass pumping equipment, and other Work, materials, equipment necessary for 60th Street Lift Station Bypass Pumping.

2. Payment: Payment for 60th Street Lift Station Bypass Pumping will be made at the lump sum price for Contract Item 23 in accordance with the actual Work placed.

X. Contract Item 24 – 60th Street Lift Station Demolition

1. Description: Under the Contract Item for 60th Street Lift Station Demolition, furnish labor, materials, equipment, and services to demolish the existing 60th Street Lift Station, as shown, specified, or directed.

The Work includes disconnection of electrical and control wiring; terminating the live feeds; removal and disposal of two dry-pit pumps, control equipment, instrumentation, elevator, and control panels; pumping and discharging of the remaining sanitary wastewater from the wet well to the sewer system prior to filling the structures with concrete, filling both the wet well and the dry well with concrete as specified, removal and disposal of the existing steel riser tubes (including above ground extensions) from the wet well and dry well as shown; removing and disposing of piping that extends to an elevation less than eight feet below existing grade; cutting and capping the existing 12-inch force main discharge pipe; backfill, consisting of select fill; restoration of lawn, landscape, wetland, or agricultural areas damaged or destroyed as a result of the Work; leaving existing valves, piping, fittings, supports, and other appurtenances in place; and other Work necessary to the demolition of the 60th Street Lift Station as shown, specified, and directed.

2. Payment: Payment for the 60th Street Lift Station Demolition will be made at the lump sum price for Contract Item 24 upon the final approval and acceptance of the demolition of the 60th Street Lift Station.

Y. Contract Item 25A – Additional Quantities, Earth Excavation

1. Description: Under the Contract Item for Additional Quantities, Earth Excavation, perform additional earth excavation within the payment limits shown as authorized in writing and as specified.

The Work includes excavation; sheeting, shoring, and bracing; removal of water; compliance with permits; protection, repair, and replacement of existing sanitary sewers and services, water main, storm sewers, underdrains, gas lines, high voltage electric cables, and other utilities; removal and disposal of surplus excavated material; monitoring structures and utilities for settlement; protection of existing structures; protection and replacement of surface features; and other Work necessary to the additional excavation as specified and directed.

The Work does not include rock excavation; common fill; select fill, flowable fill; pipe bedding; and other Work that will be paid for under other Contract Items.

2. Measurement for Payment: The quantity of Additional Quantities, Earth Excavation to be measured for payment under Contract Item 25A will be the total excavation in cubic yards, as authorized, within the payment limits shown and beyond the established lines and grades which would have controlled and been maintained had not the additional excavation been authorized. Merge costs for earth excavation done beyond the payment limits shown into the unit price per cubic yard for Contract Item 25A. Unauthorized additional earth excavation will not be measured or paid for.
3. Payment: Payment for Additional Quantities, Earth Excavation will be made at the Contract unit price per cubic yard for Contract Item 25A.

Z. Contract Item 25B – Additional Quantities, Rock Excavation

1. Description: Under the Contract Item for Additional Quantities, Rock Excavation, excavate, to established lines and grades as shown rock encountered in construction of pipelines installed in open cut trench and other similar construction within the payment limits shown as authorized in writing and as specified.

The Work includes rock excavation; sheeting, shoring, and bracing; removal of water; offsite disposal of excavated rock; compliance with permits; protection, repair, and replacement of existing sanitary sewers and services, water main, storm sewers, underdrains, gas lines, high voltage electric cables, and other utilities; removal and disposal of surplus excavated material; monitoring structures and utilities for settlement; protection of existing structures; protection and replacement of surface features; and other Work necessary to the additional excavation as specified and directed.

- a. Notify the RESIDENT PROJECT REPRESENTATIVE a sufficient time in advance of the beginning of additional rock excavation in writing, so that sufficient elevations and measurements may be obtained. No payment will be made for any additional rock material excavated or removed before these measurements have been taken.

The Work does not include additional earth excavation; additional common fill, select fill, flowable fill, or pipe bedding; and other Work that will be paid for under other Contract Items.

2. Measurement for Payment: The quantity of Additional Quantities, Rock Excavation to be measured for payment under Contract Item 25B will be the actual volume in cubic yards of rock excavated, as authorized, measured in place within the payment limits shown and specified. Merge costs for rock excavation done beyond the payment limits shown into the unit price per cubic yard for Contract Item 25B. Unauthorized additional rock excavation will not be measured or paid for.

3. Payment: Payment for Additional Quantities, Rock Excavation will be made at the Contract unit price per cubic yard for Contract Item 25B.

AA. Contract Items 25C, 25D, 25E, and 25F – Additional Quantities, Backfill, Pipe Bedding, and Encasement

1. Description: Under the Contract Items for Additional Quantities, Backfill, Pipe Bedding, and Encasement, furnish, transport, place and compact additional select fill, flowable fill, pipe bedding, and Class D concrete encasement within the payment limits shown as authorized in writing and as specified. Earth or rock excavation for placement of additional backfill, pipe bedding, or encasement will be paid under Contract Items 25A and 25B.
2. Measurement for Payment: The quantities of Additional Quantities, Backfill, Pipe Bedding, and Encasement to be measured for payment under Contract Items 25C, 25D, 25E, and 25F will be the volume in cubic yards of select fill, flowable fill, pipe bedding, or Class D concrete encasement material, as authorized, measured in place within the payment limits shown and beyond the established lines and grades which would have controlled and been maintained had not the additional backfill, pipe bedding, or encasement been authorized. Merge costs for backfill and pipe bedding done beyond the payment limits shown into the unit price for the appropriate contract item. Material used to fill voids resulting from unauthorized excavation, or where required for removal of water, will not be measured for payment even though its use is authorized. Unauthorized additional backfill, pipe bedding, or concrete encasement will not be measured or paid for.
3. Payment: Payment for Additional Quantities, Backfill, Pipe Bedding, and Encasement will be made at the Contract unit price per cubic yard for Contract Items 25C, 25D, 25E, and 25F as follows:
 - a. Contract Item 25C: Additional Quantities, Select Fill
 - b. Contract Item 25D: Additional Quantities, Flowable Fill and Flowable Fill with Cement
 - c. Contract Item 25E: Additional Quantities, Pipe Bedding
 - d. Contract Item 25F: Additional Quantities, Class D Concrete Encasement

BB. Contract Item 25G – Additional Quantities, Geotextile Fabric

1. Description: Under the Contract Item for Additional Quantities, Geotextile Fabric, furnish labor, materials, equipment, and services to provide additional geotextile fabric authorized in writing as shown, specified, or directed.

2. Measurement for Payment: The quantity of Additional Quantities, Geotextile Fabric to be measured for payment under Contract Item 25G will be the actual geotextile fabric placed in square feet, as authorized, beyond the established limits of geotextile fabric which would have controlled and been maintained had not the additional geotextile fabric been authorized. Unauthorized additional geotextile fabric will not be measured or paid for.
3. Payment: Payment for Additional Quantities, Geotextile Fabric will be made at the Contract unit price per square yard for Contract Item 25G.

CC. Contract Item 25H – Additional Quantities, Polystyrene Insulation

1. Description: Under the Contract Item for Additional Quantities, Polystyrene Insulation, furnish labor, materials, equipment, and services to provide additional polystyrene insulation authorized in writing as shown, specified, or directed.
2. Measurement for Payment: The quantity of Additional Quantities, Polystyrene Insulation to be measured for payment under Contract Item 25H will be the actual polystyrene insulation placed in square feet, as authorized, beyond the established limits of polystyrene insulation shown which would have controlled and been maintained had not the additional polystyrene insulation been authorized. Unauthorized additional polystyrene insulation will not be measured or paid for.
3. Payment: Payment for Additional Quantities, Polystyrene Insulation will be made at the Contract unit price per square foot for Contract Item 25H.

DD. Contract Item 25I – Additional Quantities, Groundwater Barriers

1. Description: Under the Contract Item for Additional Quantities, Groundwater Barriers, furnish labor, materials, equipment, and services to provide additional groundwater barriers authorized in writing as shown, specified, or directed.
2. Measurement for Payment: The quantity of Additional Quantities, Groundwater Barriers to be measured for payment under Contract Item 25I will be the actual number of groundwater barriers placed, as authorized, beyond the number of groundwater barriers shown which would have controlled and been maintained had not the additional groundwater barriers been authorized. Unauthorized additional groundwater barriers will not be measured or paid for.
3. Payment: Payment for Additional Quantities, Groundwater Barriers will be made at the Contract unit price for each groundwater barrier for Contract Item 25I.

1.6 ALLOWANCE ITEMS

A. Allowance Items A1 and A2 – Disposal of Unforeseen Impacted Materials

1. Description: Under the Allowance Items for Disposal of Unforeseen Impacted Materials, furnish labor, materials, equipment, and services to remove, handle, treat, or dispose of hazardous waste impacted material uncovered during construction and identified as hazardous based on the appropriate sampling and testing by the ENGINEER's Consultants as specified and directed.

Upon determining that a certain extent of the soil and groundwater is identified as hazardous, submit the following in accordance with Division 0:

- a. A scope of Work for the additional Work required, a price proposal for the incremental cost, and supporting documentation for review and approval. Include a detailed description of the type and extent of additional Work to be performed for the removal, handling, treatment, and legal disposal of hazardous material, as required, and a detailed cost breakdown showing material, labor and equipment costs. The incremental cost is defined as the cost of removal, handling, treatment, and disposal of impacted soil (Allowance Item A1) and groundwater (Allowance Item A2) in accordance with the requirements of Section 02 50 00 beyond the cost of removal, handling, and disposal of a corresponding quantity of non-hazardous material that is considered part of the Computed Price for the Project under other Contract Items.

During the performance of the Work, maintain a daily record of time, material and equipment utilized to perform the Work, signed by the RESIDENT PROJECT REPRESENTATIVE and keep the RESIDENT PROJECT REPRESENTATIVE apprised of the Work schedule.

2. Payment: Payment for the Disposal of Unforeseen Impacted Materials will be made for the Work completed as part of the approved scope of Work(s) for Allowance Items A1 and A2 as follows:
 - a. Allowance Item A1: Disposal of Unforeseen Impacted Materials, Soil
 - b. Allowance Item A2: Disposal of Unforeseen Impacted Materials, Groundwater

Include the allowance amounts indicated in Section 00 41 00 Bid Form in the Computed Price for the Project. The actual cost of the Work may be less or more than indicated in Section 00 41 00 Bid Form. It is also possible

that this Work may not be required, in which case the amount to be paid under these Allowance Items will be zero. Actual payments will be based solely on the amount approved.

In the event that the actual price for additional Work to be performed for the removal, handling, treatment and offsite disposal, as required, of impacted material exceeds the amount in these Allowance Items, provide the extra Work required due to the presence of impacted materials as change order Work. In this case, submit supplemental report(s), price proposal(s), and supporting documentation for review and approval in accordance with Division 0.

B. Allowance Item A3 – Unforeseen Landscape, Wetland, and Agricultural Restoration

1. Description: Under the Allowance Item for Unforeseen Landscape, Wetland, and Agricultural Restoration, furnish labor, materials, equipment, and services to replace and maintain unforeseen areas, trees, shrubs, or other vegetation disturbed or damaged by construction activities not located under pavement and appurtenant Work as specified and directed.

Upon authorization in writing, submit the following in accordance with Division 0:

- a. A scope of Work for the additional Work required, a price proposal for the incremental cost, and supporting documentation for review and approval. Include a detailed description of the type and extent of additional Work to be performed and a detailed cost breakdown showing material, labor and equipment costs. The incremental cost is defined as the cost for landscape, wetland, or agricultural restoration beyond the cost of landscape, wetland, or agricultural restoration that is considered part of the Computed Price for the Project under Contract Item 17.

During the performance of the Work, maintain a daily record of time, material and equipment utilized to perform the Work, signed by the RESIDENT PROJECT REPRESENTATIVE and keep the RESIDENT PROJECT REPRESENTATIVE apprised of the Work schedule.

2. Payment: Payment for Unforeseen Landscape, Wetland, and Agricultural Restoration will be made for the Work completed as part of the approved scope of Work(s) for Allowance Item A3.

Include the allowance amount indicated in Section 00 41 00 Bid Form in the Computed Price for the Project. The actual cost of the Work may be less or more than indicated in Section 00 41 00 Bid Form. It is also possible that this Work may not be required, in which case the amount to be paid

under this Allowance Item will be zero. Actual payments will be based solely on the amount approved.

In the event that the actual price for additional Work to be performed for landscape, wetland, or agricultural restoration exceeds the amount in this Allowance Item, provide the extra Work authorized in writing as change order Work. In this case, submit supplemental report(s), price proposal(s), and supporting documentation for review and approval in accordance with Division 0.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION

SECTION 01 31 00

COORDINATION AND MEETINGS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Coordination
- B. Preconstruction Conference
- C. Progress Meetings
- D. Outreach and Notifications Planning

1.2 COORDINATION

- A. General: Coordinate scheduling, submittals, and Contract work to assure efficient and orderly sequence of installation of interdependent construction elements.

1.3 PRECONSTRUCTION CONFERENCE

- A. General: Prior to commencement of the Work, in accordance with paragraph 2.04 of the General Conditions, the OWNER will conduct a preconstruction conference to be held at a predetermined time and place.
- B. Delineation of Responsibilities: The purpose of the conference is to designate responsible personnel, to establish a working relationship among the parties and to identify the responsibilities of the OWNER, ENGINEER, RESIDENT PROJECT REPRESENTATIVE, and the CONTRACTOR. Matters requiring coordination will be discussed and procedures for handling such matters, established. The agenda will include:
 - 1. Submittal procedures
 - 2. Requests for Information
 - 3. Partial Payment procedures
 - 4. Maintenance of Records
 - 5. Schedules and sequencing
 - 6. Safety and First Aid responsibilities
 - 7. Change Orders
 - 8. Use of site
 - 9. Security and Housekeeping procedures
 - 10. Material and equipment delivery
 - 11. Testing procedures

12. Erosion control plan
 13. Maintenance of Traffic
 14. Construction permits
 15. Liquidated damages
 16. Coordination with local municipalities
- C. Attendees: The preconstruction conference is to be attended by the representatives of the CONTRACTOR, the OWNER, the ENGINEER, and the RESIDENT PROJECT REPRESENTATIVE who will be associated with the project. Required attendance shall include the superintendent designated for the project, engineer in charge of inspection and their principal staff, utilities representatives, and representatives of the OWNER. The City of Franklin, City of Muskego, City of New Berlin, Milwaukee County, City of Waukesha, Waukesha County, Wisconsin Department of Natural Resources, and the Wisconsin Department of Transportation will be invited to this meeting at the discretion of OWNER. Representatives of subcontractors, and principal suppliers may also attend when appropriate.
- D. Chair and Minutes: The preconstruction conference will be chaired by the RESIDENT PROJECT REPRESENTATIVE who will also arrange for the keeping and distribution of minutes to all attendees.

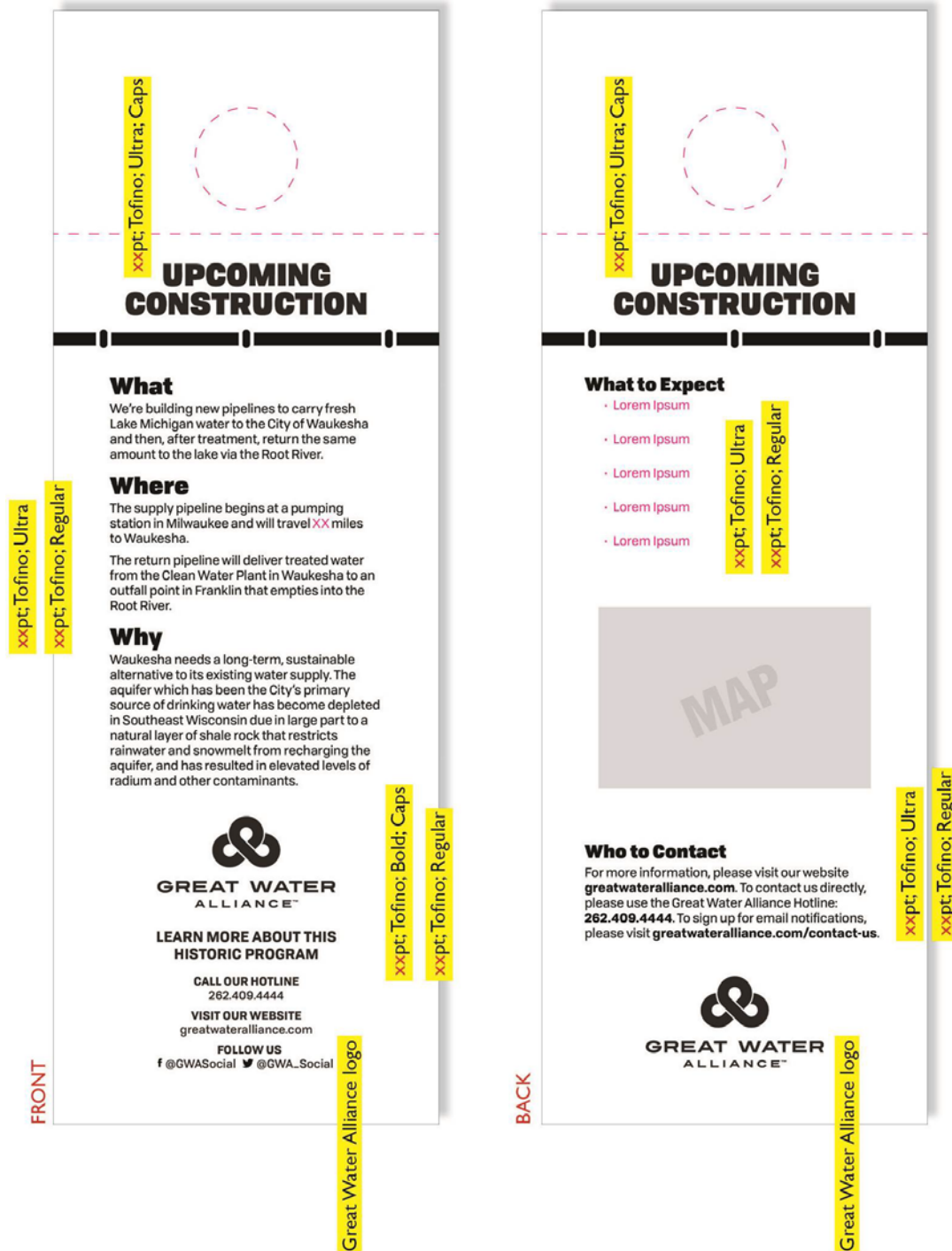
1.4 PROGRESS MEETINGS

- A. Meeting Frequency and Format: Schedule progress meetings on at least a weekly basis or more frequently as warranted by the complexity of the Project, to review the Work, discuss changes in schedules, maintain coordination and resolve potential problems. Invite OWNER, ENGINEER, RESIDENT PROJECT REPRESENTATIVE, and all subcontractors. The City of Franklin, City of Muskego, City of New Berlin, Milwaukee County, City of Waukesha, Waukesha County, Wisconsin Department of Natural Resources, and the Wisconsin Department of Transportation will be invited to this meeting at the discretion of OWNER. Suppliers may be invited as appropriate. Minutes of the meeting will be maintained by CONTRACTOR and reviewed by RESIDENT PROJECT REPRESENTATIVE prior to distribution by the CONTRACTOR. Distribute reviewed minutes to attendees within three (3) working days after each meeting. Advise the CONTRACTOR of any exceptions taken to the meeting notes within five (5) working days of receipt of the meeting notes. Lack of response will be construed as acceptance of the meeting notes as prepared.

1.5 OUTREACH AND NOTIFICATIONS PLANNING

- A. The CONTRACTOR to develop and implement a Construction Communications and Outreach Plan in coordination with the OWNER and RESIDENT PROJECT REPRESENTATIVE.

- B. Participate in two construction outreach workshops with the OWNER.
1. The initial workshop will occur within six weeks of the issuance of the Notice to Proceed. This will be an outreach orientation to review the construction schedule, initial traffic control plans, communication protocols and existing and potential local issues. It is required that the CONTRACTOR will attend.
 2. The second workshop will include the CONTRACTOR and RESIDENT PROJECT REPRESENTATIVE and will cover the expectations, roles, responsibilities and outreach protocols for the project.
- C. Notify property owners of upcoming construction impacts by using door hangers.
1. The door hangers shall be developed and approved by the RESIDENT PROJECT REPRESENTATIVE to identify the project and provide information on the project and Program.
 2. The door hanger shall be printed on weatherproof 14 mil. plastic template.
 3. The door hanger shall be 4" x 12" with a 1-1/8" die cut hole.
 4. The CONTRACTOR shall distribute and maintain the door hanger until the project is completed and accepted. The door hanger shall be distributed at locations determined by the RESIDENT PROJECT REPRESENTATIVE.
 5. Unless otherwise directed, the door hanger shall become the property of the OWNER upon completion of the project.
 6. No direct payment will be made for the project door hangers. All costs for the door hangers are incidental to the Contract.
 7. Input all information deemed relevant by the OWNER such as needed for notifications to property owners and other stakeholders.



- D. CONTRACTOR to print and deliver all notifications under the following methodology:
1. Notifying all property owners in writing along the public right-of-way 14 days prior to any street closure in advance of construction as to when, how, and how long they will be affected.

2. Notifying property owners in writing by door hanger a minimum of three (3) working days prior to closing driveways and/or restricting access to their property, with a follow up notification a minimum of one (1) working day prior to restricting access and a follow up notification after access to the property has been fully restored. CONTRACTOR is responsible for obtaining the addresses of the affected property owners Contractor is responsible for obtaining the addresses of the affected property owners.
 3. Tracking delivery of all printed notifications through an app such as Map My Run. CONTRACTOR to provide these notification map to the RESIDENT PROJECT REPRESENTATIVE and OWNER to ensure impacted communities and stakeholders have been appropriately and sufficiently noticed.
- E. CONTRACTOR to be available for any externally requested stakeholder meeting, such as a Parent Teacher Association (PTA), community or neighborhood association meetings, or for query and complaints handling for up to 4 meetings.
 - F. CONTRACTOR to assist the OWNER with responding to any immediate query or complaints (e.g. a property calling the Program's hotline regarding loss of access).
 - G. CONTRACTOR to collaborate with the OWNER in managing up to 2 milestone events, such as groundbreakings or media and stakeholder tours. The CONTRACTOR will be provided notice of any milestone event and shall be responsible for site access, security, safety and site preparation and cleanup.
 - H. CONTRACTOR will not comment or speak on behalf of the OWNER to the media or any other external party during the course of the project.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

(NO TEXT FOR THIS PAGE)

SECTION 01 32 17

PROGRESS SCHEDULE

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Scheduling Responsibilities
- B. Submittals
- C. Network Requirement
- D. Cost Loading
- E. Progress of the Work
- F. Schedule Updates
- G. Coordinating Progress Schedule With Other Contract Schedules
- H. Schedule Software Settings and Restrictions

1.2 SCHEDULING RESPONSIBILITIES

- A. Format: Use the Critical Path Method (CPM) to schedule and monitor job progress. Provide all information concerning sequencing logic and duration of all activities as well as the initial CPM logic network diagram and tabulated report data. CONTRACTOR to provide OWNER, ENGINEER, and RESIDENT PROJECT REPRESENTATIVE copies of the initial schedule and subsequent updates in both .XER and .XML formats compatible with the latest version of Primavera P6 PM.
- B. Initial Submittal: Within 10 days after the Notice to Proceed, submit the initial logic network diagram to the ENGINEER and RESIDENT PROJECT REPRESENTATIVE for review. The OWNER, ENGINEER, and RESIDENT PROJECT REPRESENTATIVE will review the initial schedule submittal and provide comments to the CONTRACTOR. Within 10 days following receipt of comments, submit final network diagram as required in paragraphs 2.05 of the General Conditions.
- C. Updates: On a monthly basis, furnish to the ENGINEER and RESIDENT PROJECT REPRESENTATIVE updated information on logic, percent complete, actual start and finish date and direction changes. Distribute copies at Progress Meetings. A brief narrative shall accompany the updated information describing

any changes to Contract milestones, approach to construction activities, critical path activities, planned outages, and delays.

- D. Adherence: Schedule and direct forces in a manner that will allow for completion of the Work within the Contract time specified.
- E. Accuracy: Provide initial schedule and subsequent update information to reflect the best efforts of the CONTRACTOR and all subcontractors as to how they envision the Work to be accomplished. Similarly, all progress information must be an accurate representation of the CONTRACTOR's and subcontractor's actual performance. Complete Work under this Contract in accordance with the established CPM schedule.
- F. Cost of Revisions: At no additional cost to the OWNER, revise schedule when, in the judgement of the ENGINEER and RESIDENT PROJECT REPRESENTATIVE, it does not accurately reflect the actual execution of the Work.

1.3 SUBMITTALS

- A. General: Provide all submittals, including the following, as specified in Division 1.
- B. CPM Schedule:
 - 1. Mandatory milestones: Contract duration shall be equal to the time period between the Notice to Proceed and the completion of the Work in readiness for final payment. The following milestones are mandatory:
 - a. Notice to Proceed
 - b. Milestones, if any, as indicated in CONTRACTOR's Bid
 - c. Substantial completion as indicated in CONTRACTOR's Bid
 - d. Completion and readiness for final payment, as indicated in CONTRACTOR's Bid
 - 2. The following additional milestones are to be considered and incorporated into the progress schedule in accordance with the Contract, if applicable:
 - a. Permit constraints
 - b. Work shut down or outage milestone requirements
 - c. Coordination with other Contract milestones
 - d. Applicable phasing milestones

- e. Other milestones deemed appropriate by RESIDENT PROJECT REPRESENTATIVE.
3. Within 10 Days after the Notice to Proceed, submit to the ENGINEER and RESIDENT PROJECT REPRESENTATIVE printed paper copies of a proposed CPM network diagram and tabular reports for the first 90 days of the Work. Draw initial logic diagram, as described herein, and submit on sheets 22 inches by 34 inches. Include both procurement and construction activities. Schedule a review meeting with the OWNER, ENGINEER, and RESIDENT PROJECT REPRESENTATIVE within 2 weeks of the initial schedule submission. Revise and resubmit the 90 day schedule until it is acceptable to the ENGINEER and RESIDENT PROJECT REPRESENTATIVE.
- a. Preliminary Progress Schedule shall:
 - (1) Illustrate a feasible schedule for completion of the Work within the contract times and milestones specified.
 - (2) Provide an elementary example of the schedules in the format to be used for the progress schedule.
 - (3) Include the activity code structure as indicated in Paragraph 1.9.G.2.
4. Within 10 Days after the Notice to Proceed, submit to the ENGINEER and RESIDENT PROJECT REPRESENTATIVE 3 sets of the proposed CPM logic diagram on sheets 22 inches by 34 inches and tabular reports for the entire Contract duration. Include both procurement and construction activities. Sort these tabular reports by total float and activity number. Provide a predecessor/successor report, and project calendar. Draw logic diagram as described. CONTRACTOR to provide OWNER, ENGINEER, and RESIDENT PROJECT REPRESENTATIVE copies of the initial schedule and subsequent updates formats compatible with the latest version of Primavera P6 PM.
- a. Progress Schedule shall be to the level of detail acceptable to the OWNER, ENGINEER and RESIDENT PROJECT REPRESENTATIVE and shall include the following:
 - (1) Organization and structural breakdown of the Project
 - (2) Milestones and completion dates
 - (3) Type of work to be performed and the labor trades involved
 - (4) Purchase, manufacture and delivery activities for major materials and equipment

- (5) Preparation, submittal, and acceptance of shop drawings and material samples. For submittals on the critical path, at the time of submission mark transmittal in red with the words "Critical Path" as indicated in 1.3.C.
 - (6) Deliveries of OWNER-furnished equipment and/or materials, if applicable
 - (7) Acceptance required by regulatory agencies and/or other third parties
 - (8) Assignment of responsibility for each activity
 - (9) Access requirements of work areas
 - (10) Identification of interfaces and dependencies with preceding, concurrent and follow-on contractors
 - (11) Test, submittal of test reports and acceptance of test results
 - (12) Planning for phased or total acceptance by OWNER; including start up and commissioning
 - (13) Identification of any manpower, material and equipment restrictions
 - (14) Planned outages
5. Schedule a review meeting with the OWNER, ENGINEER, and RESIDENT PROJECT REPRESENTATIVE within 10 days of its submission. Failure by the CONTRACTOR to submit an acceptable schedule to the ENGINEER and RESIDENT PROJECT REPRESENTATIVE may, at the OWNER's sole discretion, be cause for the withholding of any partial payment otherwise due under the Contract.
6. Review of the Schedule by the ENGINEER and RESIDENT PROJECT REPRESENTATIVE will not constitute a representation by either the ENGINEER and/or RESIDENT PROJECT REPRESENTATIVE that the Work can be completed as shown on the Schedule.
- C. Submittals Schedule: In addition to the above scheduling requirements, submit a complete and detailed listing of anticipated submittals during the course of the Contract. Coordinate these submittals with those of subcontractors and suppliers. Identify each submittal by Contract drawing number and Specification section number. Show the anticipated submission due date for each submittal along with the date on which its return is required. For planning purposes, average review time for shop drawings will be 15 Business Days after receipt. Longer durations for review may be required and will not be considered a basis for a claim for

additional time or compensation. For submittals on the critical path, at the time of submission mark transmittal in red with the words "Critical Path".

1. Submit submittal schedule within 10 Days from the Notice to Proceed. Revise as required and incorporate the dates and review durations into the CPM Schedule.
- D. Electronic Progress Schedule format and reporting: the progress schedule shall be created using Primavera P6 scheduling software. CONTRACTOR shall use RESIDENT PROJECT REPRESENTATIVE's file-naming format as directed throughout the project.
1. Electronic schedule files shall be saved with .XML or .XER file extensions
 2. Primavera Project Manager setting for "Baseline Type" shall be used in the following manner:
 - a. Select <None> as the baseline type for the preliminary progress schedule submittal.
 - b. Once the preliminary and progress schedule are accepted, the baseline type shall be named <Initial Plan>.
 - c. Each subsequent progress schedule update shall set the baseline type to <Last Performance Update>.
 3. The data date for schedule calculation in the Preliminary Progress Schedule and Progress Schedule shall be set as the date of the Notice to Proceed unless otherwise specified by the RESIDENT PROJECT REPRESENTATIVE.

1.4 NETWORK REQUIREMENTS

- A. Diagram: Show in the network diagram the order and interdependence of activities and the sequence in which the Work is to be accomplished. The purpose of the network analysis diagram is to show how the start of a given activity is dependent on the completion of preceding activities and its completion restricts the start of succeeding activities. Follow a time scaled precedence format. Time scale the detailed network diagram showing a continuous flow from left to right.
- B. Develop the schedule activities into two major groups - procurement activities and construction activities:
1. Include the following procurement activities as a minimum:
 - a. Permits
 - b. Easements

- c. Submittal items
- d. Approval of submittal items
- e. Fabrication and delivery of submittal items.

Tie each of the above procurement items logically to the correct construction activity in the overall CPM construction schedule.

- 2. Under construction activities section utilize physical work activities to describe how the job will be constructed.

C. Activity Durations: Break the work into activities with durations of 1 to 20 Days each, except for non-construction activities, such as procurement of materials and delivery of equipment, and other activities which may require longer durations. To the extent feasible, group activities related to a specific physical area of the project on the network for ease of understanding and simplification. The ENGINEER, RESIDENT PROJECT REPRESENTATIVE and OWNER will review the selection and number of activities.

- 1. For each activity on the network indicate the following:
 - a. A single duration, no longer than 20 Days (i.e., the single best estimate of the expected elapsed time considering the scope of work involved in the activity) expressed in Days. Include legal holidays observed by the OWNER and the Extreme Weather Float. For Extreme Weather Float, show the number of days, for each month, from Tables 2 and 3. Show critical path for the schedule.

Table 1 Average Monthly Precipitation (inches) 10 year average 2008 – 2018 NOAA National Centers for Environmental Information, Annual Climatological Summaries											
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.38	1.79	2.21	4.44	3.46	4.57	3.25	3.23	2.58	3.04	2.09	2.34

<p>Table 2</p> <p>Average Number of Calendar Days with Precipitation of 0.25 Inches or More in a Single 24-hour Period 10 year average 2008 – 2018 NOAA National Centers for Environmental Information, Annual Climatological Summaries</p>											
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
4	4	5	7	6	6	5	5	4	5	4	5

<p>Table 3</p> <p>Average Number of Calendar Days with Temperature less than 0 °F or greater than 90 °F 10 year average 2008 – 2018 NOAA National Centers for Environmental Information, Annual Climatological Summaries</p>											
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
4	2	1	–	1	3	4	3	1	–	–	2

- b. Assign an activity I.D. number to each activity. The I.D. number will be numeric with a maximum of 5 digits.
 - c. Include a brief description of the activity. If this description is not definitive, a separate listing of each activity and a descriptive narrative may be required.
 - d. Cost load each activity, except for procurement activities, to indicate the total estimated costs of the activity. No activity shall exceed \$60,000 except for equipment items. Assign material costs to delivery activities.
 - e. Load each activity with the estimated work hours to be expended on each activity.
- D. Incomplete Schedule: Failure to include on the network any element of work required for the performance of this Contract does not excuse the CONTRACTOR from completing all Work required within the applicable completion time, notwithstanding the network review by the ENGINEER, the RESIDENT PROJECT REPRESENTATIVE or the OWNER.

1.5 COST LOADING

- A. Schedule of Values: Allocate a dollar value to each activity on the construction schedule as specified. Equipment or material delivery activities bearing cost shall be separate activities. Include in dollar value the cost of project management, superintendence, labor, and a pro rata contribution to overhead and profit. The sum of the activities cost shall be equal to the total contract price, including approved change orders. In submitting cost data the CONTRACTOR affirms that it is not unbalanced and that the value assigned to each activity represents the CONTRACTOR's estimate of the actual costs of performing that activity.
- B. Documentation: If, in the opinion of the RESIDENT PROJECT REPRESENTATIVE, the cost data does not meet the requirements for a balanced Contract Price breakdown, present documentation to the RESIDENT PROJECT REPRESENTATIVE substantiating any cost allocation. If an activity on the construction schedule has been assigned a disproportionate allocation of direct costs, overhead and profit the cost allocations will be considered unbalanced.

1.6 RESOURCE LOADING

- A. Documentation: The CONTRACTOR shall build a resource (manpower) library within Primavera P6 and assign resources to each applicable Progress Schedule activity. Resource-loading shall determine the activity duration based on the assigned resource. The CONTRACTOR shall submit a resource analysis report produced from Primavera P6 in the form of a series of graphics showing the principal trades. The report shall show the number of man-days of effort for each month over the life of the Contract. The manpower requirements forecast shall be updated monthly and shall include the actual manpower used by trades as of the current report period and the manpower required to complete the Work.

1.7 PROGRESS OF THE WORK

- A. Delays to Critical Path: Whenever it becomes apparent from the current monthly CPM Schedule update that delays to the critical path have resulted and these delays are through no fault of the OWNER, ENGINEER, or RESIDENT PROJECT REPRESENTATIVE and hence, that the Contract completion date will not be met, or when so directed by the OWNER, take one or more of the following actions to improve the Completion Date at no additional cost to the OWNER.
 - 1. Increase construction labor in such quantities and crafts as will substantially eliminate the backlog of Work.
 - 2. Increase the number of working hours per shift, shifts per day, or days per week; the amount of construction equipment; the forms for concrete work; etc., or any combination of the foregoing to substantially eliminate the backlog of Work.

3. Reschedule activities to achieve maximum practical concurrence of accomplishment of activities, and comply with the revised schedule.
4. Submit to the RESIDENT PROJECT REPRESENTATIVE for review, a written statement of the steps proposed to be taken to remove or arrest the delay to the schedule. Failure to submit a written statement of the steps to be taken or failure to take such steps as required by the Contract, may result in the OWNER directing the level of effort in labor (trades), equipment, and work schedule (overtime, weekend and holiday work, etc.) to be employed by the CONTRACTOR in order to remove or arrest the delay to the critical path in the accepted schedule. Promptly provide such level of effort at no additional cost to the OWNER. In addition, should schedule delays persist, the CONTRACTOR's surety will be asked to attend meetings at which schedule is updated.
5. If the requirements of this provision are not complied with, the OWNER at the OWNER's sole discretion, will withhold, partially or in total, payments otherwise due for work performed under this Contract as stated in Paragraph 15.01.E of General Conditions. Any withholding of monies is not a penalty for noncompliance, but is an assurance to the OWNER that funds will be available to implement these requirements should the CONTRACTOR fail to do so.

1.8 SCHEDULE UPDATES

- A. Monthly Schedule Updates: Monthly schedule updates shall be part of the monthly progress meeting. Submit monthly progress schedule updates for the duration of the Contract on a date agreed to by OWNER, RESIDENT PROJECT REPRESENTATIVE, and the CONTRACTOR. The CONTRACTOR must provide the following information for each update at a minimum:
 1. Actual start and finished dates for all completed activities.
 2. Actual start dates for all started but uncompleted activities including remaining durations.
 3. Activity percent completion.
 4. Revised logic and changes in activity durations, cost assigned.
 5. Cost influent of change orders, if any.
 6. Revisions due to extension of time.
- B. Prior to each monthly progress meeting, CONTRACTOR shall prepare a complete and accurate report of current procurement and construction progress through the end of the update period, and a depiction of how CONTRACTOR plans to

continue the Work to meet all contract completion dates. All network changes and status data agreed to during each progress meeting shall be considered as accepted by all meeting attendee's unless written notice of any exceptions is given within five calendar days after the meeting.

C. Printouts and electronic layouts required as part of the Progress Schedule submittal and monthly updates are as follows:

1. Summary Schedule: One page milestone and summary schedule sorted by total float, early-start, early-finish;
2. Detailed Project Schedule: organized by Work Breakdown Structure (WBS) or area of work; sorted by total float, early-start, early-finish;
3. Critical Path Schedule: sorted based on the total float, early-start, and early-finish;
4. 60-day Look Ahead Schedule: sorted by total float, early-start, early-finish;
5. Activities in Progress: organized by WBS or area of work; sorted by total float, early-start, early-finish;
6. Out-of-sequence Narrative: tabular narrative showing work performed out-of-sequence.

D. Submittal shall also including the following:

1. Narrative report summarizing the milestones, critical path, project approach including phasing or use of crews, significant submittal and fabrication items, coordination or interface requirements, OWNER-provided items, and list of Subcontractors and vendors.
2. Graphic reports including critical path report (longest path), summary schedule report, total Float report by early-start early-finish, look ahead report grouped by Work breakdown structure or project phasing, and cash flow projection. Cash flow projections include estimated cumulative cost curves based on early and late start dates and projection of monthly payments over the life of the project.
3. The schedule, critical path, and look-ahead schedules shall be submitted on E (22" x 34") size paper
4. The Progress Schedule File shall be submitted in an executable format, using Primavera Project Manager (P6) format on a USB drive or FTP/electronic delivery, as requested by the RESIDENT PROJECT REPRESENTATIVE.
5. The narrative and graphic reports shall be provided on 8" x 11" paper and E-size plots respectively.

- E. For major network changes that cannot be agreed to during the progress meeting, CONTRACTOR shall submit the proposed changes for RESIDENT PROJECT REPRESENTATIVE's acceptance prior to inserting such changes into the networks, fragnets, or schedule abstracts, provided they are submitted with a letter of transmittal. A fragnet is defined as a sequence of new activities and/or activity revisions that are proposed to be added to the existing schedule to demonstrate how project events have an impact on the schedule.
- F. Withholding of Payments: Failure to provide specified updated information or failure to attend progress meetings may result in the withholding of progress payments.
- G. Time Extensions: If in accordance with the provisions of Article 11 of the General Conditions, the OWNER and RESIDENT PROJECT REPRESENTATIVE finds that the CONTRACTOR is entitled to any extension of the Contract completion date under the provisions of the Contract, the OWNER's determination as to the total number of Days extension will be based upon the current accepted and updated CPM Schedule and on all data relevant to the extension. Such data shall be included in the next monthly updating of the schedule. Actual delays in activities which, according to the CPM Schedule, do not affect any contract completion date shown by the critical path in the network, do not have any effect on the Contract completion date or dates and therefore, will not be the basis for a change in Contract completion time.
- H. Schedule Adjustments: From time to time it may be necessary for the Contract schedule and completion time to be adjusted by the OWNER to reflect the effects of job conditions, acts or omissions of other contractors not directly associated with this Contract, weather, technical difficulties, strikes, unavoidable delays on the part of the OWNER or RESIDENT PROJECT REPRESENTATIVE, and other unforeseeable conditions. Under such conditions, the OWNER may direct the CONTRACTOR to reschedule the Work to reflect the changed conditions and may grant, in a Change Order, schedule extensions affecting the Contract completion time. No additional compensation will be made to the CONTRACTOR for such schedule adjustments if the Critical Path is unaffected.
- I. Weather Delays: During construction, the Resident Project Representative will obtain weather data from a reputable source and will maintain weather records.

Extreme Weather Conditions that affect the critical path of the progress schedule, in excess of the Extreme Weather Float, will be considered for an increase in Contract Times. For all Extreme Weather Events, submit to Resident Project Representative, within 72 hours of the weather impact date, a "Weather Delay Form" with a statement of the proposed time increase based on supporting relevant weather data. Use the form provided in this section.

Resident Project Representative will determine Contractor's entitlement to an increase in Contract Times as a result of weather delays based on the flow chart in Figure 1-01 32 17 and

the data included in Tables 1, 2 and 3 of this section. Efficiencies gained as a result of favorable weather within a calendar month, where the actual number of days of Extreme Weather Conditions is less than the total number of days shown in Tables 2 and 3, will contribute to the available total float in the CPM Schedule and will not affect Contract Times. For circumstances not covered by the flow chart, increases in Contract Times will be granted at the discretion of Owner.

Table 3 includes historical weather data for the average number of days recorded where temperature could be considered extreme. Not every day listed in Table 3 corresponds to an Extreme Weather Condition based on the Heat Index Apparent Temperature or Wind Chill Index.

Justification for an increase in Contract Times as a result of extreme temperature will be determined based on the Heat Index Apparent Temperature or Wind Chill Index using the formulas below. The Heat Index and Wind Chill Temperature limits for determining the extreme temperature event will be those listed in Figure 1-01 32 17.

Heat Index:

$$HI = -42.379 + 2.04901523 \times T + 10.14333127 \times RH - 0.22475541 \times T \times RH - 0.00683783 \times T \times T - 0.05481717 \times RH \times RH + 0.00122874 \times T \times T \times RH + 0.00085282 \times T \times RH \times RH - 0.00000199 \times T \times T \times RH \times RH$$

Where:

HI = Heat Index Expressed as an Apparent Temperature in Degrees Fahrenheit (°F)

T = Average Day Temperature in Degrees Fahrenheit (°F)

RH = Average Day Relative Humidity in Percent (%)

If the RH is less than 13% and the temperature is between 80 and 112 degrees Fahrenheit (°F), then the following adjustment is subtracted from HI:

$$ADJUSTMENT = [(13 - RH)/4] \times \text{SQRT}\{[17 - \text{ABS}(T - 95)]/17\}$$

Where:

HI = Heat Index Expressed as an Apparent Temperature in Degrees Fahrenheit (°F)

T = Average Day Temperature in Degrees Fahrenheit (°F)

RH = Average Day Relative Humidity in Percent (%)

SQRT = Square Root Function

If the RH is greater than 85% and the temperature is between 80 and 87 degrees Fahrenheit (°F), then the following adjustment is added to HI:

$$ADJUSTMENT = [(RH - 85)/10] \times [(87 - T)/5]$$

Where:

HI = Heat Index Expressed as an Apparent Temperature in Degrees Fahrenheit (°F)

T = Average Day Temperature in Degrees Fahrenheit (°F)

RH = Average Day Relative Humidity in Percent (%)

Wind Chill Index:

$$WC = 35.74 + 0.6215 \times T - 35.75 \times V^{0.16} + 0.4275 \times T \times V^{0.16}$$

Where:

WC = Wind Chill Index Expressed as a Temperature in Degrees Fahrenheit (°F)

T = Average Day Temperature in Degrees Fahrenheit (°F)

V = Wind Speed in Miles per Hour (mph)

J. Acceleration Costs: Additional compensation will be made to the CONTRACTOR in the event the OWNER requires the project completion prior to the completion date shown on the CONTRACTOR's accepted schedule. The OWNER, therefore, has the right to accelerate the schedule and the CONTRACTOR will be compensated for such acceleration as long as such acceleration is not required through fault of the CONTRACTOR. Available total float in the CPM Schedule may be used by the OWNER and RESIDENT PROJECT REPRESENTATIVE as well as by the CONTRACTOR after receiving written verification from the OWNER or RESIDENT PROJECT REPRESENTATIVE.

K. Float:

1. Without obligation to extend the overall completion date or any intermediate completion dates set out in the CPM network, the OWNER may initiate changes to the Contract Work that absorb float time only. OWNER-initiated changes that affect the critical path on the CPM network shall be the sole grounds for extending (or shortening) said completion dates. CONTRACTOR initiated changes that encroach on the float time identified in the CPM network may be accomplished with the OWNER's concurrence. Such changes, however, shall give way to OWNER-initiated changes competing for the same float time.
2. CONTRACTOR shall not use Float suppression techniques, including preferential sequencing (arranging critical path through activities more susceptible to OWNER caused delay); lag logic restraints; zero total or free Float constraints; extended activity times as determined by the RESIDENT PROJECT REPRESENTATIVE; or imposing constraint dates other than as required by the Contract. Float suppression will be cause for rejection of the preliminary progress schedule or full progress schedule and its updates.

L. Data Dates:

1. Data date is resettable date in P6 that serves as the end of the reporting period. The reporting period shall be recorded on a monthly basis, e.g.

January 1st through January 31st with the 31st as the data date. If required for coordination purposes by OWNER, RESIDENT PROJECT REPRESENTATIVE will provide specific data dates to be used by CONTRACTOR.

1.9 COORDINATING PROGRESS SCHEDULE WITH OTHER CONTRACT SCHEDULES

- A. Where Work is to be performed under this Contract concurrently with, or contingent upon, work performed by others on the same facilities, or within an area under other Construction Contracts associated with the GWA or other known projects coordinated with the local municipalities, the Progress Schedule shall be coordinated with the schedules of the other contracts. OWNER will provide the schedules of other contracts for preparation and updating of the Progress Schedule for Contracts under the Owner's control. CONTRACTOR shall revise the Progress Schedule as required by changes in schedules of other contracts.

1.10 SCHEDULE SOFTWARE SETTINGS AND RESTRICTIONS

- A. Schedule Options:
 - 1. Shall be defined only to "Use expected finish dates";
 - 2. Scheduling progressed activities to be set to "Use only retained logic", not progress override option;
 - 3. Critical Path activities defined as Total Float less than or equal to zero;
 - 4. Calculating start-to-start lag from "early start" dates; and computing total Float as "finish Float = late finish – early finish";
 - 5. Calendar to be set for scheduling relationship lag as "Predecessor Activity Calendar."
- B. Activity progress shall be shown using Remaining Duration. Date format shall be DDMMYY.
- C. Default activity type shall be set to "Independent Task".
- D. Date/time activity constraints, other than those required by the Contract, will not be allowed unless accepted by RESIDENT PROJECT REPRESENTATIVE. CONTRACTOR shall identify proposed constraints and explain the constraint purpose in the Narrative Report.
- E. Lags shall not be used in the creation of an activity that will perform the same function, e.g. concrete cure time. Lag durations contained in the Progress Schedule shall not have a negative value. CONTRACTOR shall identify any lag proposed and explain the purpose of the lag in the Narrative Report.

F. Actual Start and Finish dates shall not be automatically updated by default mechanism that may be included in the CPM scheduling software system. Actual Start and Actual Finish dates on the CPM schedule shall be updated by actual work progression.

G. Activity codes: Activity codes and work breakdown structure (WBS) to be confirmed or revised by RESIDNET PROJECT REPRESENTATIVE are listed below. Confirmation or revision will be provided to CONTRACTOR within three (3) workdays of the Effective Date of the Contract. Use of activity codes and WBS is mandatory.

1. "Project Codes" is reserved for OWNER. Only "Activity Codes" at Project level will be permitted for CONTRACTOR's use:

2.	Activity Code	Code Value	Description
	Phase	0005	Construction Phase
	Construction Phase	A	Milestones
		B	Administrative
		C	Submittals
		D	Construction Activities
		E	Closeout Phase
	Submittals	SUB	Submittals
		R&A	Review & Approve
		F&D	Fabricate & Deliver

Other codes to be prescribed by RESIDENT PROJECT REPRESENTATIVE or requested by CONTRACTOR for project specific criteria.

3. GWA Program Required Schedule Activities:

Activity ID	Activity Name	Description	Responsibility
CP5-A-00	Contract Package Start (NTP)	Milestone	OWNER
CP5-A-01	Leakage Test	Milestone	Contractor
CP5-A-02	Pipe Closure with CP2	Milestone	Contractor
CP5-A-03	Pipe Closure with CP6	Milestone	Contractor
CP5-A-04	Substantial Completion	Milestone	Contractor
CP5-A-05	Final Completion	Milestone	Contractor

H. Activity Relationships: Relationships between activities shall be identified with the following information:

1. Predecessor and successor activity ID.
2. Relationship types:
 - a. FS – Finish to Start
 - b. SS – Start to Start
 - c. FF – Finish to Finish
 - d. SF – Start to Finish – This relationship is not allowed unless authorized by the ENGINEER or RESIDENT PROJECT REPRESENTATIVE

I. Project Calendars: Project Calendars shall use workdays and calendar days as the planning unit for the schedule. Use of Global Calendars is reserved for OWNER. Each calendar shall be set to start on Mondays with holidays in accordance with OWNER policy.

1. The following calendars shall be used for each activity except as the otherwise accepted by RESIDENT PROJECT REPRESENTATIVE:

- a. 5-Day x 8-Hour workweek (with holidays) shall be used for 5-day 40-hour workweek activities: Monday through Friday. All holidays and non-work days shall be assigned to this calendar. This calendar shall be used for all normal work activities. This calendar shall be the default calendar for the project unless otherwise specified.
 - b. 5-Day x 10-Hour workweek (with holidays) shall be used for 5-day 50-hour workweek activities: Monday through Friday. All holidays and non-work days shall be assigned to this calendar.
 - c. 6-Day x 10-Hour workweek (with holidays) shall be used for 6-day 60-hour workweek activities: Monday through Saturday. All holiday and non-work days shall be assigned to this calendar.
 - d. 7-Day Calendar (no holidays) shall be used for 7-day workweek activities. No non-work days shall be entered into this calendar.
 - e. Additional Calendars may be assigned depending on need. CONTRACTOR shall consult with RESIDENT PROJECT REPRESENTATIVE before other calendars are entered and or used in the Progress Schedule.
2. The work day to calendar day correlation shall be based on a single shift and 5-day workweek with adequate allowance for holidays, adverse weather, and all other special requirements of the Work. CONTRACTOR may, at his option, propose alternate baseline calendars to allow a second shift and or a single shift on Saturdays subject to the concurrence and acceptance of OWNER. Under no circumstances will a schedule be accepted which allows regularly scheduled work on Sundays.
 3. Holidays observed by OWNER are defined under Supplementary Conditions, Article 7.02.B.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used



Waukesha Water Utility
115 Delafield Street
Waukesha, Wisconsin 53187

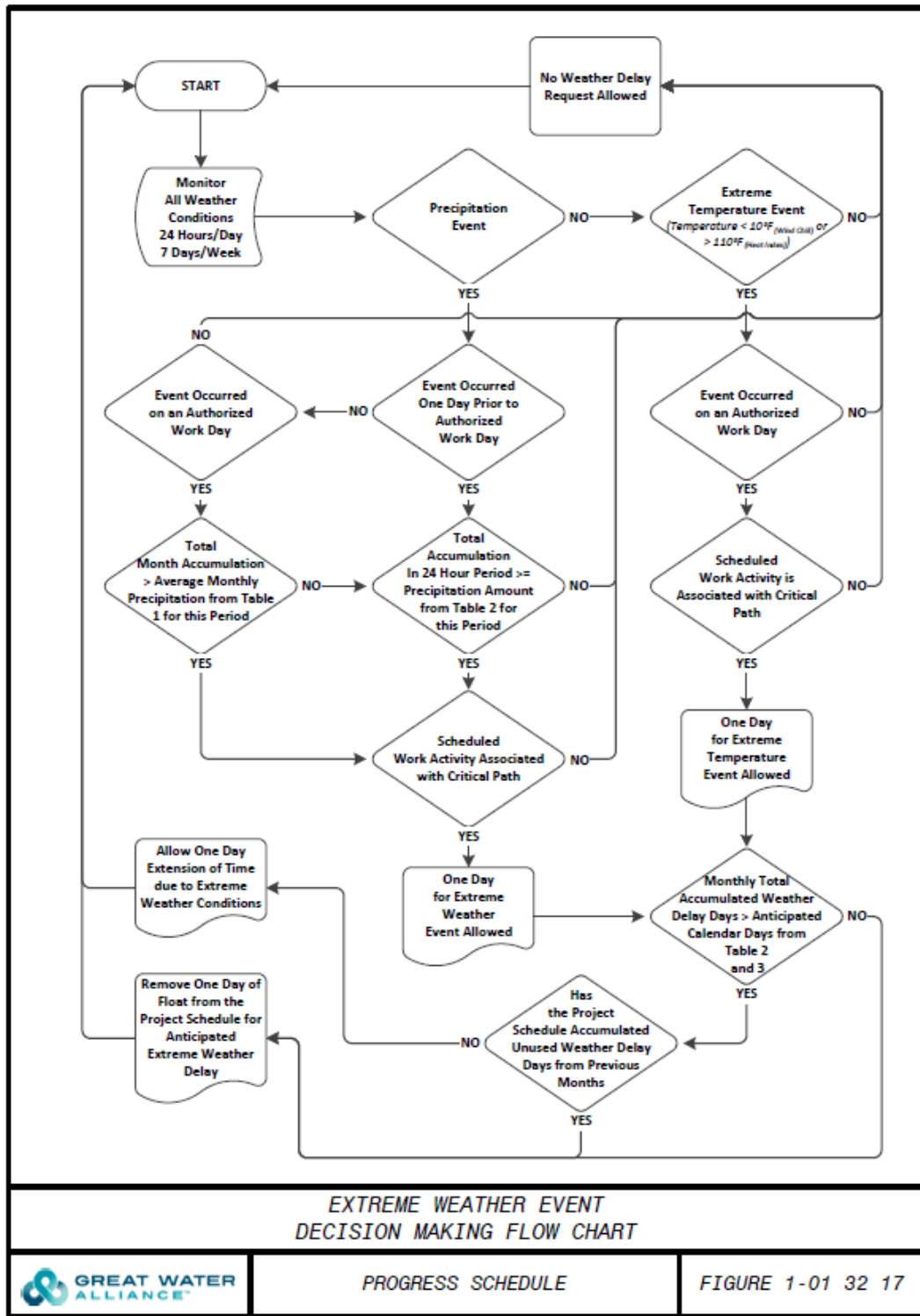
Weather Delay Request					
Owner: _____			Project No.: _____		
Project Title: _____			File No.: _____		
Project Limits: _____			Date: _____		
Location: _____			Prepared By: _____		
Request Number: _____					
General Contractor:			Sub-Contractor(s) On-Site:		
Tel: _____ Fax: _____					
Normal Work Hours:					
Impact Date: _____		Start Time: _____		End Time: _____	
Total: _____		Hrs. _____			
Weather Conditions: (Weather Data, River Data, Wind Chill, Heat Index)					
Weather Condition and Duration:				Type of Impact:	
Period:					
Temperature:	°F	°F	°F	°F	°F
Dew Point:	°F	°F	°F	°F	°F
Humidity:	%	%	%	%	%
Wind Direction:					
Wind Speed:	mph	mph	mph	mph	mph
Wind Gust:	mph	mph	mph	mph	mph
Heat Index/Wind Chill:	°F	°F	°F	°F	°F
Pressure:	in	in	in	in	in
Precipitation:	in	in	in	in	in
Event:					
Conditions:					
River Name:	ft	ft	ft	ft	ft
River Level (Datum _____):					
Stage: Action: _____, Flood: _____					
	Low Temp.	High Temp.	Ave. Wind Speed	Total Prec.	Total Snow
Daily Observation:	°F	°F	mph	in	in
Schedule Impact:					
Schedule Data Date: _____					
Activity ID	Activity Description	Critical Path	Anticipated Delay Day	Time Extension Requested	
		<input type="checkbox"/> Yes / <input type="checkbox"/> No	<input type="checkbox"/> Yes / <input type="checkbox"/> No	<input type="checkbox"/> Yes / <input type="checkbox"/> No	
		<input type="checkbox"/> Yes / <input type="checkbox"/> No	<input type="checkbox"/> Yes / <input type="checkbox"/> No	<input type="checkbox"/> Yes / <input type="checkbox"/> No	
		<input type="checkbox"/> Yes / <input type="checkbox"/> No	<input type="checkbox"/> Yes / <input type="checkbox"/> No	<input type="checkbox"/> Yes / <input type="checkbox"/> No	
Request:					
Comments: _____					
Contractor's Representative: _____					
(Project Manager) _____ Date: _____					
Withdrawn By: _____					
_____ Date: _____					
Reason for Withdrawal: _____					
Acceptance:					
Received: <input type="checkbox"/> Acknowledge <input type="checkbox"/> Deny					
Remarks: _____					
Resident Project Representative: _____					
(Resident Project Representative) _____ Date: _____					
Owner's Representative: _____					
(Project Administrator) _____ Date: _____					

T Request must be submitted not later than 72 hours after the weather impact date.

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Page 1

Form 1 - 01 32 17 (003).docx



END OF SECTION

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SECTION 01 33 00

SUBMITTALS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Description
- B. Definitions
- C. Submittal Procedures
- D. ENGINEER'S Actions on Submittals
- E. Repetitive Reviews
- F. Example Format for CONTRACTOR's Approval and Certification Stamp
- G. CONTRACTOR's Submittal Transmittal Form

1.2 DESCRIPTION

- A. This Section specifies procedural requirements for submittals made by the CONTRACTOR to the ENGINEER including Shop Drawings, substitutions, product data, samples, test data, operations and maintenance data, and other miscellaneous Work-related submittals. Specific submittals required for individual elements of the Work are specified in the associated, individual Specification Sections. Except as otherwise indicated in other Specification Sections, comply with the requirements specified herein for each type of submittal.

1.3 DEFINITIONS

- A. Shop Drawings: The term "Shop Drawings", as used in the General Conditions includes all "Action Submittals" and "Information Submittals" as defined below.
- B. Action Submittals: The following submittals require approval by the ENGINEER as described in Subsection 3.2 of this Section:
 - 1. Manufacturer's Documents: Technical data, drawings and other similar information specially prepared for this Project by product manufacturers and suppliers, including fabrication and installation drawings, diagrams, actual performance curves, data sheets, schedules, templates, patterns, reports, instructions, design mix formulas, measurements, and similar information not in standard printed form.

2. Product Data: Stock or standard printed information on materials and equipment that has not been specially prepared for this Project, including specifications, installation instructions, catalog cuts, wiring diagrams, and color charts.
 3. Working Drawings: Technical data, drawings and other similar information specially prepared for this Project by the CONTRACTOR or Subcontractors, including fabrication and installation drawings, diagrams, and other similar information.
 4. Samples: Refer to the General Conditions
 5. Mock-Ups: Special types of samples that are too large or otherwise inconvenient for handling in the manner specified for transmittal of sample submittals.
 6. "Or Equal" or Substitution Requests: Refer to the General Conditions.
- C. Information Submittals: The following submittals require acknowledgement by the ENGINEER as described in Subsection 3.2 of this Section:
1. CONTRACTOR's Licensed Professional Submittals: Certificates and other documents required by the Contract Documents to be prepared and submitted by the CONTRACTOR's Licensed Professionals
 2. Inspection and Test Reports
 3. Mill reports
 4. Guarantees
 5. Warranties
 6. Certifications
 7. Experience records
 8. Maintenance agreements
 9. Operation and maintenance manuals
 10. Survey data and reports: property surveys, building or structure condition surveys, field measurements, quantitative records of actual Work, damage surveys, photographs, and similar data required by Specification sections
 11. Physical work records

12. Quality testing and certifying reports
 13. Industry standards
 14. Record drawings
- D. Other Submittals: For submittals concerning the following refer to the indicated Contract Document Section:
1. Listing of manufacturers – Section 01 60 00
 2. Suppliers, and subcontractors – Article 7.06 of the General and Supplementary Conditions
 3. Construction progress schedule – Section 01 32 17
 4. Schedule of shop drawing submissions - Article 2.03 of the General and Supplementary Conditions
 5. Bonds – Article 6 of the General and Supplementary Conditions
 6. Schedule of values – Section 01 29 00
 7. Payment applications – Section 01 29 00
 8. Insurance certificates - Article 6 of the General and Supplementary Conditions
 9. Dust Control Plan – Section 01 50 00
- E. Clarifications and Interpretations:
1. The CONTRACTOR is responsible to review the Contract Documents, determine the type and extent of the Work and make all necessary field measurements before starting the Work. If any conflict, error, ambiguity, or discrepancy is discovered the CONTRACTOR is to submit a written request for interpretation or clarification from ENGINEER and RESIDENT PROJECT REPRESENTATIVE. The ENGINEER and RESIDENT PROJECT REPRESENTATIVE will issue a written clarification or interpretation of the requirements of the Contract Documents as ENGINEER and RESIDENT PROJECT REPRESENTATIVE may determine necessary, consistent with the intent of and reasonably inferable from the Contract Documents. Such written clarifications and interpretations will be binding on the CONTRACTOR.

2. If the CONTRACTOR submits a written request for information that does not, in the sole discretion of the ENGINEER and RESIDENT PROJECT REPRESENTATIVE, require clarification or interpretation of the Contract Documents, ENGINEER or RESIDENT PROJECT REPRESENTATIVE will notify CONTRACTOR that such information is contained (or could otherwise be reasonably determined) in the Contract Documents. The CONTRACTOR shall reimburse OWNER for ENGINEER's charges for evaluating and responding to such a request for information.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.1 SUBMITTAL PROCEDURES

A. Scheduling:

1. Submit a preliminary schedule of submittals, in duplicate, and in accordance with Paragraph 2.03 of the General Conditions for acceptance by the ENGINEER and RESIDENT PROJECT REPRESENTATIVE. ENGINEER will review no submittals until an acceptable schedule of submittals has been submitted. If the CONTRACTOR intends to request a substitute(s) for the materials or equipment specified, schedule substitution request(s), along with any related, subsequent submittals, in the schedule of submittals and submit as scheduled.
2. Schedule, prepare and transmit each submittal to ENGINEER sufficiently in advance of scheduled performance of related Work and other applicable activities.

B. Coordination:

1. Coordinate the preparation and processing of submittals with the performance of the Work. Coordinate each submittal with other submittals and related activities, such as substitution requests, testing, purchasing, fabrication, delivery, and similar activities that require sequential performance. Coordinate submissions for different items of interrelated work so that one submittal will not be delayed by ENGINEER's need to review a related submittal.
2. ENGINEER may return any submittal requiring coordination with other submittals without review and marked "Revise and Resubmit". This type of returned submittal will be counted as a submittal subject to the provisions of 3.3 –REPETITIVE REVIEWS of this Section.

3. The ENGINEER will not hold a submittal awaiting additional information from the CONTRACTOR.

C. Electronic Submittals

1. Assemble each submittal in a single, separate, PDF file.
2. Include Submittal Transfer Form as the first page of the file. Identify features of the submittal which may not be in conformance with contract document requirements.
3. For large submittals, include bookmarks within file to navigate through file.
4. Name file with submittal numbering as specified.
5. The ENGINEER will establish an electronic submittal management system upon contract award and maintain the system for the duration of the General Prime Contractor's contract. The electronic Submittals Management System will be continuously accessible via the Internet to all required entities with password controlled accessibility and permissions.
6. Enter and maintain submittals in the electronic Submittals Management System, except those not able to be digitally transmitted, such as samples or documents. Maintain the number and type of hard copies of documents required to be original by governmental regulations, as specified, or as ordered by the ENGINEER at the Project Site, available for use by the ENGINEER and others at all times.

D. Submittal Preparation:

1. All Submittals: Review each submittal to determine, as applicable, that:
 - a. The submittal is required by the Contract Documents. The ENGINEER will only review submittals required by the Contract Documents.
 - b. The materials and equipment depicted in the submittal are intended for incorporation into the Work.
 - c. The submittal is complete and in sufficient detail to allow ready determination of compliance with the Contract Documents.
 - d. The items depicted in the submittal will fit in the space available.
 - e. The information in the submittal has been coordinated with the requirements of the Contract Documents; work to be performed by all

trades involved; field measurements and other requirements of the Work.

- f. The submittal does not contain standard printed information unless full identification of the project-specific portions and any project-specific supplementary information is shown thereon in ink or typewritten form.
- g. The submittal does not encompass more than one Section of the Specifications.
- h. The submittal presents, where applicable, such data as dimensions, weights, and performance characteristics on drawings for mechanical and electrical equipment. Show conformance with the performance characteristics and other criteria included in the Contract Documents. Review of such information will be subject to the provisions of General Conditions paragraph 7.16.D.
- i. Variations from the Contract Documents have been specifically noted on the Submittal Transmittal Form and highlighted on all relative documents within the submittal that are affected by the variation. ENGINEER's responsibility for variations is established in paragraphs 7.16.D.4 and 7.16.D.6 of the General Conditions.
- j. The submittal is in compliance with the Contract Documents and a completed approval and certification stamp has been placed on each submittal document. Use a stamp containing the information shown in the sample stamp at the end of this section. ENGINEER will rely upon CONTRACTOR's certification of compliance that the CONTRACTOR has reviewed and approved the submittal and has confirmed that the submittal conforms to all the requirements of the Contract Documents except for variations specifically noted on the Submittal Transmittal Form and all attached documents. Submittals will be returned to CONTRACTOR without action if certification is not provided and the submittal will be counted as a submittal subject to the provisions of 3.3 –REPETITIVE REVIEWS of this Section.

2. Manufacturer's Documents and Working Drawing submittals:

- a. Accurately and distinctly present the following:
 - (1) Graphical information at accurate scale
 - (2) Name, address and telephone number of manufacturer or supplier
 - (3) Materials and equipment that are to be included in the Work

- (4) Compliance with standards
 - (5) All dimensions, clearly identifying those dimensions based on field measurement
 - (6) Arrangements and sectional views
 - (7) Necessary details, including complete information on making connections between Work in this project, work in other related projects and existing facilities
 - (8) Electrical wiring connections between all equipment provided including all internal wiring between internal components of equipment
 - (9) Kinds of materials and finishes
 - (10) Parts list and descriptions thereof
 - (11) Spare parts, lubricants or special tools required by the Contract Documents
- b. Include the following on each drawing or page:
- (1) Preparation date and revision dates
 - (2) Project name
 - (3) Specification Section number and page number
 - (4) Identification of equipment or materials
 - (5) Name of CONTRACTOR (and Subcontractor if applicable)
 - (6) Name of Supplier and/or Manufacturer
 - (7) Field dimensions, clearly identified
 - (8) Standards or industry specification references
 - (9) Identification of variations from the Contract Document requirements
 - (10) Physical location and location relative to other facilities that the Work-related equipment or materials are to be installed adjacent to or connected with

(11) Provide 8-inch wide by 3-inch high blank space for CONTRACTOR's and ENGINEER's stamps

3. Product Data:

- a. Assemble all data into a single submittal for each element of work or system. Where product data includes information on several similar products, some of which are not required for use on the subject Project, clearly mark to show such information is not applicable.
- b. Where data must be specially prepared for required materials or equipment because standard printed data are not suitable for use, submit the data as a Manufacturer's Document and not as Product Data.
- c. Submit product data with appropriate Manufacturer's Document or Working Drawing, when applicable.

4. Samples:

- a. Whenever possible, provide samples physically identical with the materials proposed for incorporation into the Work. Where variations in color, pattern or texture and the like are inherent in materials represented by samples, submit multiple samples (not less than 3) showing the approximate range of variations.
- b. Submit samples for visual review of generic kind, color, pattern, texture, and for a final check of coordination of these characteristics with other related elements of the Work and existing facilities.
- c. Include information with each sample to provide a generic description of the item, and its name, manufacturer, limitations, and compliance with standards.
- d. Submit 3 sets of samples, where specifications indicate selection of color, pattern, texture or similar characteristics from manufacturer's range of standard choices is necessary.

5. Mock-Ups:

- a. Mock-ups and similar samples are recognized as special types of samples. Comply with samples submittal requirements to the greatest extent possible. Process Submittal Transmittal Forms to provide a record of activity.

6. Requests for "Or Equal" or Substitution:

- a. Follow the General Conditions, except for the following: CONTRACTOR shall reimburse OWNER for ENGINEER's charges for evaluating a proposed "Or Equal" that receives a negative determination.
- 7. CONTRACTOR's Licensed Professional Submittals:
 - a. Submit certificates and other documents required by the Contract Documents to be prepared and submitted by the CONTRACTOR's Licensed Professionals.
- 8. Inspection and Test Reports:
 - a. Identify each inspection and test report as either specially prepared for the Project or a standard publication of workmanship control testing at point of production. Submit in accordance with the requirements for Manufacturer's Documents or Product Data, respectively as described in this Section.
- 9. Mill Test Reports, Experience Records, Physical Work Records, Guarantees, Warranties, and Maintenance Agreements:
 - (1) Refer to the Contract Documents sections for specific requirements.
- 10. Survey Data:
 - a. Refer to the various Contract Documents for specific requirements.
- 11. Certifications, Quality Testing and Certifying Reports:
 - a. Refer to Specification sections for specific requirements on submittal of certifications. Certifications are submitted for review of conformance with specified requirements and information. Submittal is final when reviewed and returned by ENGINEER with no further action required.
- 12. Closeout Submittals:
 - a. Refer to Specification sections and Section 01 78 00 for specific requirements on submittal of closeout information, materials, tools, and similar items such as:
 - (1) Warranties and Bonds
 - (2) Record Drawings

(3) Special Tools

13. Operation and Maintenance Manuals:

- a. Submit Operation and Maintenance Manuals in accordance with Section 01 78 23

E. Submittal Transmittal Form: Use the Submittal Transmittal Form found at the end of this Section to forward each specific submittal package to the ENGINEER. Provide all the information indicated on the Form and answer each question. Submittals with incomplete information on the Submittal Transmittal Form will be returned to the CONTRACTOR marked "Revise and Resubmit" and will be counted as a submittal subject to the provisions of 3.3 –REPETITIVE REVIEWS of this Section.

F. Submittal Numbering:

1. Number all submittals as follows:

(A) - (B)

Where:

(A) = Specification Section Number

(B) = Consecutive submittal number for the Specification Section Number listed in (A), with an alphabetic suffix indicating the sequential version of the submittal.

Examples: 01 13 00-001A	indicates the initial version of submittal number 001 for Specification Section 01 13 00.
01 13 00-001B	indicates the second version of submittal number 001 for Specification Section 01 13 00.
01 13 00-002A	indicates the initial version of submittal number 002 for Specification Section 01 13 00.

2. When a document(s) is resubmitted for any reason, use a new Submittal Transmittal Form with the same submittal number and a new, sequential alphabetic suffix.

G. Resubmittal Preparation:

1. Comply with the requirements described in the Submittal Preparation subsection above. In addition:

- a. Identify on the Submittal Transmittal Form that submittal is a resubmission.
- b. Make and clearly identify any corrections or changes required by ENGINEER's notations on the previous, returned submittal.
- c. Respond to ENGINEER's notations:
 - (1) On the Submittal Transmittal Form or on a separate page(s) attached to the Submittal Transmittal Form, answer or acknowledge, in writing, all notations or questions indicated by ENGINEER on the ENGINEER's response to the previous submittal.
 - (2) Identify each response by the corresponding question or notation number established by ENGINEER.
 - (3) If CONTRACTOR does not respond to each notation or question, the ENGINEER will return the resubmission without action. Additional resubmittals will be required until the CONTRACTOR provides a written response to all of the ENGINEER's notations or questions.
- d. Indicate CONTRACTOR initiated revisions or variations:
 - (1) On the Submittal Transmittal Form identify variations or revisions from the previously reviewed submittal, other than those called for by ENGINEER.
 - (2) ENGINEER's responsibility for variations or revisions is established in Paragraphs 7.16.A.3, 7.16.D.4 and 7.16.D.6 of the General Conditions.

H. Distribution

- 1. Manufacturer's Documents, Working Drawings, Product Data and Samples and Mock-ups:
 - a. After a submittal is stamped "Approved" (See Subsection 3.2), in a new PDF file, place the date of approval on the submittal and transmit to the ENGINEER together with the Submittal Transmittal Form indicating the submittal is a "Distribution of Approved Submittal". For Mockups, distribute a Submittal Transmittal Form only.

After a submittal is stamped "Approved as Noted" (See Subsection 3.2), in a new PDF file, make the changes noted by ENGINEER and place the date of approval on the submittal and transmit to the

ENGINEER together with the Submittal Transmittal Form indicating the submittal is a “Distribution of Approved as Noted Submittal”.

- b. If changes other than those marked by the ENGINEER are made, follow the requirements of Paragraph 3.1, F to obtain ENGINEER approval.
- c. Unless required elsewhere, provide distribution of ”Approved” and “Approved as Noted” submittals to subcontractors, suppliers, governing authorities, and others as necessary for proper performance of the Work.
- d. Maintain one set of “Approved” and revised “Approved as Noted” submittals in PDF form on the electronic Submittals Management System accessible at the Project site, available for use by the ENGINEER and RESIDENT PROJECT REPRESENTATIVE at all times.
- e. Maintain returned final set of samples at the Project site, in suitable condition and available for quality control comparisons throughout the course of performing the Work. Incorporate only undamaged samples into the Work, when permitted by the Contract Documents.
- f. Prior to project closeout, submit a complete set of project submittals in PDF format on CD, DVD, USB flash drive, or downloadable link via the electronic Submittals Management System to the ENGINEER.

I. CONTRACTOR’s Licensed Professional Submittals

- a. After a submittal is acknowledged by the ENGINEER (See Subsection 3.2,2), in a new PDF file, place the date of acknowledgement on the submittal and transmit to the ENGINEER together with the Submittal Transmittal Form indicating the submittal is a “Distribution of Acknowledged Submittal”.
- b. Maintain one set of submittals in PDF form on the electronic Submittals Management System accessible at the Project site, available for use by the ENGINEER and RESIDENT PROJECT REPRESENTATIVE and at all times.

3.2 ENGINEER’S ACTIONS ON SUBMITTALS

A. General:

- 1. Review and approval by the ENGINEER of Action Submittals will be subject to the provisions of General Conditions. ENGINEER’s review and approval will be only to determine if the items covered by the submittals

will, after installation or incorporation in the Work, conform to the requirements of the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole. ENGINEER's review or approval of any submittal does not authorize a change to the Contract Time or Price.

2. ENGINEER's review and approval of Action Submittals will not extend to means, methods, techniques, sequences, or procedures of construction (except where a particular means, method, technique, sequence, or procedure of construction is specifically and expressly called for by the Contract Documents) nor to safety precautions or programs incident thereto. The review and approval of a separate item will not indicate approval of the assembly in which the item is a part.
3. ENGINEER will stamp each Action Submittal except Requests for Interpretation or Clarification with an appropriate action stamp.

B. ENGINEER's Action

1. Stamps:

a. Approved:

- (1) Where submittals are stamped "Approved", Work covered by submittal may proceed PROVIDED THE WORK COMPLIES WITH THE CONTRACT DOCUMENTS. Acceptance of Work will depend upon that compliance.

b. Approved As Noted:

- (1) When submittals are stamped "Approved as Noted", Work covered by submittal may proceed PROVIDED IT COMPLIES WITH ENGINEER'S NOTATIONS AND CORRECTIONS ON SUBMITTAL AND WITH THE CONTRACT DOCUMENTS. Acceptance of Work will depend on that compliance.

c. Revise and Resubmit:

- (1) When submittals are stamped "Revise and Resubmit" do not proceed with Work covered by submittal. Do not permit Work covered by submittal to be used at Project site or elsewhere where Work is in progress.
- (2) Revise submittal in accordance with ENGINEER's notations and corrections and resubmit in accordance with Subsection 3.1F of this Section.

2. Acknowledgements of Information Submittals

- a. When Information Submittals conform to the format requirements in the Contract Documents ENGINEER will acknowledge such submittals via a response transmittal.
- b. If an Information Submittal does not conform to the format requirements of the Contract Documents, ENGINEER will return the submittal with comments or questions. Do not proceed with Work covered by the submittal and do not permit Work covered by the submittal to be used at Project site or elsewhere where Work is in progress. Resubmit the Information Submittal until the ENGINEER acknowledges that the submittal conforms to the format required.

3.3 REPETITIVE REVIEWS

- A. Cost of Repetitive Reviews: Submittals will be reviewed no more than twice at the OWNER's expense. All subsequent reviews will be performed at times convenient to the ENGINEER and at the CONTRACTOR's expense based on the ENGINEER's then prevailing rates including all direct and indirect costs and fees. Reimburse the OWNER for all such costs and fees invoiced to the OWNER by the ENGINEER for third and subsequent submittals.
- B. Time Extension: Any need for more than one resubmission, or any other delay in ENGINEER's review of submittals, will not entitle CONTRACTOR to an extension of the Contract Time.

3.4 EXAMPLE FORMAT FOR CONTRACTOR'S APPROVAL AND CERTIFICATION STAMP

- A. An example format for the CONTRACTOR's approval and certification stamp is as follows:

<p style="text-align: center;"><i>CONTRACTOR'S NAME</i></p> <p>_____ Approved and Certified to comply with the Contract Documents.</p> <p>_____ Approved and Certified to comply with the Contract Documents, except for variations specifically noted on the Submittal Transmittal Form and the associated documents.</p> <p>PRINTED NAME: _____</p> <p>TITLE: _____</p> <p>SIGNATURE: _____</p> <p>DATE: _____</p>
--

- 3.5 EXAMPLE FORMAT FOR CONTRACTOR’S LICENSED PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF WISCONSIN
- A. An example format for the CONTRACTOR’s Licensed Professional Engineer certification signature and seal is as follows:

CONTRACTOR'S NAME

LICENSED PROFESSIONAL ENGINEER'S COMPANY NAME

The following system has been prepared and designed by:

a Licensed Professional Engineer registered in the State of Wisconsin and experienced in

PRINTED NAME: _____

TITLE: _____

LICENSE NUMBER: _____

DATE: _____

SIGNATURE AND SEAL:

Expiration Date:

3.6 CONTRACTOR'S SUBMITTAL TRANSMITTAL FORM

A. The format for the CONTRACTOR's Submittal Transmittal Form is as follows:

CONTRACTOR'S NAME
SUBMITTAL TRANSMITTAL FORM
Contract Package 6

TO: _____	DATE: _____
ATTN: _____	SITE: _____
	SPEC. REF. NO. _____
	DRAWING REF. NO. _____
FROM: _____	SUBMITTAL NO. _____

1. The following documents are forwarded for your review:

Submittal Number		Document Originator	Date	Description
Specification Section	Submittal No. (Version)			
## ## ##	- ###(A)			

2. Will item submitted for review fit in space provided in the Contract Documents? _____ Yes _____ No _____ Not Applicable
3. Has work indicated in this submittal been coordinated with all trades? _____ Yes _____ No _____ Not Applicable
4. Has the Contractor approved submittal and affixed completed approval and certification stamp? _____ Yes _____ No
5. Contractor's description and justification for variations from the Contract Documents. (Use additional pages, if necessary)

6. Remarks: _____
-
-
-

Printed Name: _____

Signature: _____

END OF SECTION

(NO TEXT FOR THIS PAGE)

SECTION 01 42 00

REFERENCES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Reference Abbreviations
- B. Abbreviations
- C. Reference Standards
- D. Definitions

1.2 RELATED SECTIONS

- A. Information provided in this section is used where applicable in individual Specification Sections, Divisions 1 through 49.

1.3 REFERENCE ABBREVIATIONS

- A. Reference to a technical society, trade association or standards setting organization, may be made in the Specifications by abbreviations in accordance with the following list:

AABC	Associated Air Balance Council
AAMA	Architectural Aluminum Manufacturers Association
AASHTO	American Association of State Highway and Transportation Officials
AATCC	American Association of Textile Chemists and Colorists
ACI	American Concrete Institute
ADC	Air Diffusion Council
AFBMA	Anti-friction Bearing Manufacturers Association
AGA	American Gas Association
AGMA	American Gear Manufacturers Association
AHA	Association of Home Appliance Manufacturers
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
AMCA	Air Movement and Control Association, Inc.
ANSI	American National Standards Institute
APA	American Plywood Association
ARI	American Refrigeration Institute
ASCE	American Society of Civil Engineers
ASHRAE	American Society of Heating, Refrigerating and Air Conditioning Engineers

ASME	American Society of Mechanical Engineers
ASSE	American Society of Sanitary Engineers
ASTM	American Society for Testing and Materials
AWI	Architectural Woodwork Institute
AWPA	American Wood Preservers Association
AWS	American Welding Society
AWWA	American Water Works Association
BHMA	Builders' Hardware Manufacturers Association
BIA	Brick Institute of American
CABO	Council of American Building Officials
CAGI	Compressed Air and Gas Institute
CISPI	Cast Iron Soil Pipe Institute
CMAA	Crane Manufacturers Association of America
CRD	U.S. Corps of Engineers Specifications
CRSI	Concrete Reinforcing Steel Institute
CTI	Cooling Tower Institute
DHI	Door and Hardware Institute
DIPRA	Ductile Iron Pipe Research Association
DOH	Department of Health
DOT	Department of Transportation
FCC	Federal Communications Commission
Fed. Spec.	Federal Specifications
FGMA	Flat Glass Marketing Association
FHWA	Federal Highway Administration
FM	Factory Mutual
HMI	Hoist Manufacturing Institute
HPMA	See HPVA
HPVA	Hardwood Plywood Veneer Association
ICEA	Insulated Cable Engineers Association
IEEE	Institute of Electrical and Electronics Engineers
IFI	Industrial Fasteners Institute
ISO	International Standards Organization
MIL	Military Specifications
MSS	Manufacturer's Standardization Society
NAAMM	National Association of Architectural Metal Manufacturers
NACM	National Association of Chain Manufacturers
NBS	National Bureau of Standards, See NIST
NEBB	National Environmental Balancing Bureau
NEC	National Electrical Code
NEMA	National Electrical Manufacturers Association
NETA	National Electrical Testing Association
NFPA	National Fire Protection Association
NFPA	National Forest Products Association
NFPA	National Fluid Power Association
NIST	National Institute of Standards and Technology
NLMA	National Lumber Manufacturers Association
NSF	National Sanitation Foundation

OSHA	Occupational Safety and Health Act
PCI	Prestressed Concrete Institute
PDI	Plumbing and Drainage Institute
SAE	Society of Automotive Engineers
SCPRF	Structural Clay Products Research Foundation
SMACNA	Sheet Metal and Air Conditioning Contractors' National Association
SPI	Society of the Plastics Industry
SSPC	Steel Structures Painting Council
STI	Steel Tank Institute
TCA	Tile Council of American
TIMA	Thermal Insulation Manufacturers' Association
UL	Underwriters' Laboratories, Inc.
USBR	U. S. Bureau of Reclamation
USBS	U. S. Bureau of Standards, See NIST
WDNR	Wisconsin Department of Natural Resources
WIFIA	Water Infrastructure Finance and Innovation Act
WisDOT	Wisconsin Department of Transportation

1.4 ABBREVIATIONS

- A. Abbreviations which may be used in individual Specification Sections Divisions 1 through 49 are as follows:

alternating current..... ac
 American wire gauge..... AWG
 ampere(s) amp
 ampere-hour(s)..... AH
 annual..... ann
 Ampere Interrupting
 Capacity AIC
 atmosphere(s)..... atm
 average..... avg

 Board Foot FBM
 brake horsepower..... bhp
 Brinell Hardness BH
 British thermal unit(s)..... Btu

 calorie (s) cal
 Celsius (centigrade) C
 Center to Center C to C
 centimeter(s) cm
 coefficient, valve flow C_v
 condensate returnCR
 cubic..... cu
 cubic centimeter(s)..... cc
 cubic feet per day cfd
 cubic feet per hour cfh
 cubic feet per minute cfm
 cubic feet per minute,
 standard conditions scfm
 cubic feet per second cfs
 cubic foot (feet)..... cu ft
 cubic inch(es)..... cu in
 cubic yard(s) cu yd

 decibels dB
 decibels (A scale).....dBA
 degree(s) deg
 dewpoint temperature dpt
 diameter dia
 direct current..... dc
 dissolved oxygen DO
 dissolved solids..... DS
 dry-bulb temperature dbt

 each.....EA
 efficiencyeff
 elevation..... el
 entering water temperature ewt

entering air temperature.....eat
 equivalent direct radiation edr

 face area..... fa
 face to face..... f to f
 Fahrenheit F
 feet per day fpd
 feet per hour..... fph
 feet per minute..... fpm
 feet per second..... fps
 foot (feet) ft
 foot-candle..... fc
 foot-pound ft-lb
 foot-pounds per minute..... ft-lb/min
 foot-pounds per second..... ft-lb/sec
 formazin turbidity unit(s)FTU
 frequencyfreq
 fuel oil..... FO
 fuel oil supply FOS
 fuel oil return FOR

 gallon(s)..... gal
 gallons per day..... gpd
 gallons per day per
 cubic foot gpd/cu ft
 gallons per day per
 square foot gpd/sq ft
 gallons per hour gph
 gallons per minute gpm
 gallons per second gps
 gas chromatography and
 mass spectrometryGC-MS
 gauge ga
 grain(s)..... gr
 gram(s)..... g
 grams per cubic centimeter.....gm/cc

 Heat Transfer Coefficient U
 height hgt
 Hertz Hz
 horsepower hp
 horsepower-hour.....hp-hr
 hour(s) hr
 humidity, relative..... rh
 hydrogen ion concentration pH

 inch(es) in

inches per second..... ips
 inside diameter..... ID

 Jackson turbidity unit(s) JTU

 kelvin K
 kiloamperes..... kA
 kilogram(s)..... kg
 kilometer(s)..... km
 kilovar (kilovolt-amperes
 reactive) kvar
 kilovolt(s)..... kV
 kilovolt-ampere(s)..... kVA
 kilowatt(s) kW
 kilowatt-hour(s) kWh

 linear foot (feet) lin ft
 liter(s)..... L
 lump sum..... LS

 megavolt-ampere(s) MVA
 meter(s) m
 micrograms per liter..... ug/L
 miles per hour mph
 milliamperes..... mA
 milligram(s) mg
 milligrams per liter mg/L
 milliliter(s) mL
 millimeter(s) mm
 million gallons MG
 million gallons per day mgd
 millisecond(s) ms
 millivolt(s) mV
 minute(s) min

 nephelometric turbidity
 unit NTU
 net positive suction head..... NPSH
 noise criteria..... nc
 noise reduction coefficient..... NRC
 number no

 ounce(s)..... oz
 outside air..... oa
 outside diameter..... OD

 parts per billion ppb

parts per million..... ppm
 percent pct
 phase (electrical)..... ph
 pound(s)..... lb
 pounds per cubic foot pcf
 pounds per cubic foot
 per hour..... pcf/hr
 pounds per day..... lbs/day
 pounds per day per
 cubic foot..... lbs/day/cu ft
 pounds per day per
 square foot..... lbs/day/sq ft
 pounds per square foot..... psf
 pounds per square foot
 per hour..... psf/hr
 pounds per square inch psi
 pounds per square inch
 absolute..... psia
 pounds per square inch
 gauge psig
 power factor..... PF
 pressure drop or
 difference dp
 pressure, dynamic
 (velocity) vp
 pressure, vapor..... vap pr

 quart(s)..... qt

 Rankine..... R
 relative humidity..... rh
 resistance res
 return air ra
 revolution(s) rev
 revolutions per minute..... rpm
 revolutions per second..... rps
 root mean squared..... rms

 safety factor sf
 second(s)..... sec
 shading coefficient..... SC
 sludge density index SDI

 Sound Transmission
 Coefficient STC
 specific gravity sp gr
 specific volume..... Sp Vol

sp ht at constant pressure	Cp	
square	sq	
square centimeter(s).....	sq cm	yard(s)..... yd
square foot (feet).....	sq ft	year(s)..... yr
square inch (es)	sq in	
square meter(s).....	sq m	
square yard(s).....	sq yd	
standard.....	std	
static pressure.....	st pr	
supply air sa	
suspended solids	SS	
temperature	temp	
temperature difference	TD	
temperature entering	TE	
temperature leaving	TL	
thousand Btu per hour.....	Mbh	
thousand circular mils	kcmil	
thousand cubic feet	Mcf	
threshold limit value	TLV	
tons of refrigeration	tons	
torque	TRQ	
total dissolved solids.....	TDS	
total dynamic head.....	TDH	
total oxygen demand.....	TOD	
total pressure.....	TP	
total solids.....	TS	
total suspended solids	TSS	
vacuum.....	vac	
viscosity	visc	
volatile organic chemical.....	VOC	
volatile solids	VS	
volatile suspended solids	VSS	
volt(s).....	V	
volts-ampere(s)	VA	
volume	vol	
watt(s)	W	
watthour(s).....	Wh	
watt-hour demand	WHD	
watt-hour demand meter	WHDM	
week(s).....	wk	
weight	wt	
wet-bulb	WB	
wet bulb temperature	WBT	

- B. Use ASME Y1.1-1989, "Abbreviations for use on Drawings and in Text" for abbreviations for units of measure not included herein in Paragraph 1.4.

1.5 REFERENCE STANDARDS

- A. Latest Edition: Construe references to furnishing materials or testing, which conform to the standards of a particular technical society, organization, or body, to mean the latest standard, code, or specification of that body, adopted and published as of the date of bidding this Contract. Standards referred to herein are made a part of these Specifications to the extent which is indicated or intended.
- B. Precedence: The duties and responsibilities of the OWNER, CONTRACTOR, ENGINEER, RESIDENT PROJECT REPRESENTATIVE or any of their consultants, agents or employees are set forth in the Contract Documents, and are not changed or altered by any provision of any referenced standard specifications, manuals or code, whether such standard manual or code is or is not specifically incorporated by reference in the Contract Documents. Any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority, to undertake responsibility contrary to the powers of the ENGINEER and RESIDENT PROJECT REPRESENTATIVE as set forth in the Contract Documents cannot be assigned to the ENGINEER, RESIDENT PROJECT REPRESENTATIVE, or any of their consultants, agents or employees.

1.6 DEFINITIONS

- A. In these Contract Documents, the words furnish, install and provide are defined as follows:
 - 1. Furnish (materials): to supply and deliver to the project ready for installation and in operable condition.
 - 2. Install (services or labor): to place in final position, complete, anchored, connected in operable condition.
 - 3. Provide: to furnish and install complete. Includes the supply of specified services. When neither furnish, install or provide is stated, provide is implied.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

(NO TEXT FOR THIS PAGE)

SECTION 01 44 00

PRECONSTRUCTION VIDEOS

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes: Requirements for providing preconstruction videos.

1.2 SUBMITTALS

- A. General: Furnish submittals, including the following, as specified in Division 1.
- B. Prior to commencing the Work, a color audio-video recording of the entire construction area of the project to serve as a record of the site conditions.
 - 1. Do not begin any construction prior to review and approval of the preconstruction video of the construction area by the ENGINEER and RESIDENT PROJECT REPRESENTATIVE.
 - 2. Retain one copy of the approved preconstruction videos and written records and submit to the ENGINEER and RESIDENT PROJECT REPRESENTATIVE at project close out.

PART 2 PRODUCTS

2.1 VIDEO MEDIA

- A. Produce the video portion of the recording with bright, sharp, and clear pictures with accurate colors free from distortion, tearing, rolls, and any other form of picture imperfection. Produce commentary of the camera operator with proper volume and clarity free from distortion on the audio portion of the recording.
- B. Make video quality 720p HD or greater in MPG, AVCHD, AVI, or MP4 format.
- C. Provide video media on standard Digital Video Disc (DVD) format.

2.2 RECORDED INFORMATION – VIDEO

- A. Record coverage of surface features located within the limits of construction and adjacent zones of influence including, but not be limited to, entire designated easements, entire roadways, roadway signage (type of sign to be noted in commentary), pavements, ditches, walls, curbs, driveways (zoom in and hold on driveway, from street to garage, for minimum 5 seconds), sidewalks, culverts,

buildings, raised pavement markings, landscaping, shrubbery and fences. Note the existence of faults, fractures, defects, and such. Limit video coverage to one side of the site, street, easement or right-of-way at any one time. Include surface conditions located within the zone of influence of construction supported by appropriate audio description including the location relative to construction stations. Sufficiently control panning, zoom-in and zoom-out rates to maintain a clear view of the object.

- B. Display continuously and simultaneously the date and time of recording on the video. Generate the video recordings with the actual recording date and time as transparent digital information. Show the month, day and year on the date information.

2.3 RECORDED INFORMATION – AUDIO

- A. Provide corresponding and simultaneously recorded audio recording to the video consisting of the original live recorded audio. Begin each recording with the recorded date, project name followed by the general location, i.e., viewing side and direction of progress. Record exclusively the narrative commentary of the electrographer, recorded simultaneously with the fixed elevation video record of the zone of influence of construction to assist in viewer orientation and in any needed identification, differentiation, clarification, or objective description of the features being shown in the video portion of the recording, including location relative to construction stations. Provide the audio recording free from any conversations between the camera operator and any other production technicians.

2.4 VIDEO MEDIA INDEXING

- A. Video Identification: Permanently label video media with number and project name and location.
- B. Video Logs: Provide each video with a log of that video's contents that describes the various segments of coverage contained on the video in terms of the names of the streets or easements, coverage beginning and end, directions of coverage, video unit counter numbers, and date.
- C. Video Index: Provide, by electrographer, an index listing, in order by video number, each video number and a brief description of coverage contained on that video, including engineering station numbers.

PART 3 EXECUTION

3.1 GENERAL

- A. Complete video recording not more than six weeks prior to commencement of construction.

- B. Engage the services of a professional videographer. Prepare the color audio-video recordings by a responsible commercial firm known to be skilled and regularly engaged in the business of preconstruction color audio-video documentation.
- C. Review the video recordings for clarity and accuracy, and make supplemental records of existing conditions if they are not clearly indicated.
- D. Notify the ENGINEER and RESIDENT PROJECT REPRESENTATIVE two weeks prior to commencement of construction within a specific geographic area in order to obtain the preconstruction video.

3.2 VISIBILITY

- A. Perform recordings during times of good visibility. Do not record during periods of significant precipitation, mist or fog. Complete recording when sufficient sunlight is present to properly illuminate the subject, and to produce bright, sharp video recordings of those subjects. Do not record when more than 10% of the area to be recorded contains debris or obstructions unless otherwise approved by the RESIDENT PROJECT REPRESENTATIVE.

3.3 COVERAGE

- A. Provide coverage consisting of a single, continuous, unedited recording which begins at one end of a particular construction area and proceeds uninterrupted to the other end of the construction area in order to increase the continuity of coverage.
- B. Provide the average rate of travel during a particular segment of coverage (e.g., coverage of one side of a street) indirectly proportional to the number, size, and value of the surface features within that construction area's zone of influence not exceeding one-half mile per hour.

3.4 CAMERA OPERATION

- A. Camera Height and Stability: If conventional wheeled vehicles are used as conveyances for the recording system, maintain a vertical distance between the camera lens and the ground equal to ten feet or less. Firmly mount the camera such that transport of the camera during the recording process will not cause an unsteady picture.
- B. Camera Control: Sufficiently control camera pan, tilt, zoom-in, and zoom-out rates such that recorded objects will be clearly viewed during video playback. Properly control or adjust other camera and recording system controls such as lens focus and aperture, video level, pedestal, chroma, white balance, and electrical focus to maximize picture quality.
- C. Viewer Orientation Techniques: Maintain viewer orientation on the audio and video portions of the recording. Utilize visual displays of visible building

addresses. In locations, such as easements, where the proposed construction location will not be readily apparent to the video viewer, indicate the proposed centerline of construction.

END OF SECTION

SECTION 01 45 00
QUALITY CONTROL

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Inspection Services
- B. Inspection of Materials
- C. Quality Control
- D. Costs of Inspection
- E. Acceptance Tests
- F. Failure to Comply with Contract

1.2 RELATED SECTIONS

Related Work specified in other sections includes, but is Not Limited to, the Following

- A. Section 01 33 00 - Submittals: Specific Submittal Requirements

1.3 SUBMITTALS

- A. General: Provide all submittals, including the following, as specified in Division 1.
- B. Certificate Submittals: Furnish the ENGINEER authoritative evidence in the form of Certificates of Manufacture that the materials and equipment to be used in the Work have been manufactured and tested in conformity with the Contract Documents. Include copies of the results of physical tests and chemical analyses, where necessary, that have been made directly on the product or on similar products of the manufacturer.

1.4 INSPECTION SERVICES

- A. OWNER's Access: At all times during the progress of the Work and until the date of final completion, afford the OWNER, ENGINEER, and RESIDENT PROJECT REPRESENTATIVE every reasonable, safe, and proper facility for inspecting the Work at the site. The observation and inspection of any work will not relieve the CONTRACTOR of any obligations to perform proper and satisfactory work as

specified. Replace work rejected due to faulty design, inferior, or defective materials, poor workmanship, improper installation, excessive wear, or nonconformity with the requirements of the Contract Documents, with satisfactory work at no additional cost to the OWNER. Replace as directed, finished or unfinished work found not to be in strict accordance with the Contract, even though such work may have been previously approved and payment made therefor.

- B. Rejection: The OWNER, ENGINEER, and the RESIDENT PROJECT REPRESENTATIVE have the right to reject materials and workmanship which are defective or require correction. Promptly remove rejected work and materials from the site.
- C. Inferior Work Discoveries: Failure or neglect on the part of the OWNER, ENGINEER, or the RESIDENT PROJECT REPRESENTATIVE to condemn or reject bad or inferior work or materials does not imply an acceptance of such work or materials. Neither is it to be construed as barring the OWNER, ENGINEER or the RESIDENT PROJECT REPRESENTATIVE at any subsequent time from recovering damages or a sum of money needed to build anew all portions of the Work in which inferior work or improper materials were used.
- D. Removal for Examination: Should it be considered necessary or advisable by the OWNER, ENGINEER or the RESIDENT PROJECT REPRESENTATIVE, at any time before final acceptance of the Work, to make examinations of portions of the Work already completed, by removing or tearing out such portions, promptly furnish all necessary facilities, labor, and material, to make such an examination. If such Work is found to be defective in any respect, defray all expenses of such examination and of satisfactory reconstruction. If, however, such work is found to meet the requirements of the Contract, the cost of examination and restoration of the Work will be considered a change in the Work to be paid for in accordance with applicable provisions of the Contract.
- E. Operation Responsibility: Assume full responsibility for the proper operation of equipment during tests and instruction periods. Make no claim for damage which may occur to equipment prior to the time when the OWNER accepts the Work.
- F. Rejection Prior to Warranty Expiration: If at anytime prior to the expiration of any applicable warranties or guarantees, equipment is rejected by the OWNER, repay to the OWNER all sums of money received for the rejected equipment on progress certificates, and upon the receipt of the sum of money, OWNER will execute and deliver a bill of sale of all its rights, title, and interest in and to the rejected equipment. Do not remove the equipment from the premises of the OWNER until the OWNER obtains from other sources, equipment to take the place of that rejected. The OWNER hereby agrees to obtain other equipment within a reasonable time and the CONTRACTOR agrees that the OWNER may use the equipment furnished by the CONTRACTOR without rental or other charge until the other new equipment is obtained.

1.5 INSPECTION OF MATERIALS

- A. Premanufacture Notification: Give notice in writing to the RESIDENT PROJECT REPRESENTATIVE sufficiently in advance of the commencement of manufacture or preparation of materials especially manufactured or prepared for use in or as part of the permanent construction. When required, notice to include a request for inspection, the date of commencement, and the expected date of completion of the manufacture or preparation of materials. Upon receipt of such notice, RESIDENT PROJECT REPRESENTATIVE will coordinate with ENGINEER for material testing and will arrange to have a representative present at such times during the manufacture or testing as may be necessary to inspect the materials, or will notify CONTRACTOR that the inspection will be made at a point other than the point of manufacture or testing, or that the inspection will be waived. Comply with these provisions before shipping any materials. Such inspection will not constitute a release from the responsibility for furnishing materials meeting the requirements of the Contract Documents.
- B. Testing Standards: Conduct tests of electrical and mechanical equipment and appliances in accordance with recognized, applicable test codes except as may otherwise be stated herein.

1.6 QUALITY CONTROL

A. Testing

1. Field and Laboratory

- a. Provide personnel to assist the ENGINEER in performing the following periodic observation and associated services. Contractor shall coordinate with the RESIDENT PROJECT REPRESENTATIVE in advance of scheduled tests, inspections, or start of major phases of work. The RESIDENT PROJECT REPRESENTATIVE will coordinate with the ENGINEER to provide appropriate staff for field and laboratory testing.

- (1) Soils: Observe and test excavations, placement and compaction of soils. Determine suitability of excavated material. Observe subgrade soils and foundations.
- (2) Concrete: Observe forms and reinforcement; observe concrete placement; witness air entrainment tests, facilitate concrete cylinder preparation and assist with other tests performed by ENGINEER.

Bituminous HMA: Observe and test HMA Pavement and assist with other tests performed by ENGINEER.

- (3) Masonry: Sample and test mortar and grout; inspect brick and block samples and sample panels; inspect placement of reinforcement and grouting.
 - (4) Structural Steel: Verify that all welders are certified; visually inspect all structural steel welds; mechanically test high-tensile bolted connections.
 - b. When specified in Divisions 2 through 46 of the Contract Documents, provide an independent laboratory testing facility to perform required testing. Qualify the laboratory as having performed previous satisfactory work. Prior to use, submit qualifications to the ENGINEER for approval.
 - c. Cooperate with the ENGINEER and RESIDENT PROJECT REPRESENTATIVE and laboratory testing representatives. Provide RESIDENT PROJECT REPRESENTATIVE at least 24 hours' notice prior to when specified testing is required. Provide labor and materials, and necessary facilities at the site as required by the ENGINEER and the testing laboratory.
 - d. Provide an independent testing agency, a member of the InterNational Electrical Testing Association, to perform inspections and tests specified in Division 26 of these Specifications.
- 2. Equipment: Coordinate and demonstrate test procedures as specified in the Contract Documents or as otherwise required during the formal tests.
- 3. Pipeline and Other Testing: Conform to test procedures and requirements specified in the appropriate Specification Section.

B. Reports

- 1. Certified Test Reports: Where transcripts or certified test reports are required by the Contract Documents, meet the following requirements:
 - a. Before delivery of materials or equipment submit and obtain approval of the ENGINEER for all required transcripts, certified test reports, certified copies of the reports of all tests required in referenced specifications or specified in the Contract Documents. Perform all testing in an approved independent laboratory or the manufacturer's laboratory. Submit for approval reports of shop equipment tests within thirty days of testing. Transcripts or test reports are to be accompanied by a notarized certificate in the form of a letter from the manufacturer or supplier certifying that tested material or equipment meets the specified requirements and the same type, quality,

manufacture and make as specified. The certificate shall be signed by an officer of the manufacturer or the manufacturer's plant manager.

- b. Where witness testing is required for ENGINEER to be in attendance, send out a notification 30-45 days in advance to RESIDENT PROJECT REPRESENTATIVE for coordination with ENGINEER.

- 2. Certificate of Compliance: At the option of the ENGINEER, or where not otherwise specified, submit for approval a notarized Certificate of Compliance. The Certificates may be in the form of a letter stating the following:

- a. Manufacturer has performed all required tests
- b. Materials to be supplied meet all test requirements
- c. Tests were performed not more than one year prior to submittal of the certificate
- d. Materials and equipment subjected to the tests are of the same quality, manufacture and make as those specified
- e. Identification of the materials

1.7 COSTS OF INSPECTION

- A. OWNER's Obligation: Initial inspection and testing of concrete, mortar, grout, pipe manufacturing, backfill and structural steel furnished under this Contract will be performed by the OWNER or their authorized Representatives or inspection bureaus without cost to the CONTRACTOR. If subsequent testing is necessary due to failure of the initial tests or because of rejection for noncompliance, reimburse the OWNER for expenditures incurred in making such tests.
- B. CONTRACTOR's Obligation: Include in the Contract Price, the cost of all shop and field tests of equipment and other tests required by the Contract Documents except those tests described above under "OWNER's Obligation". The OWNER may perform tests on any material or equipment furnished under this Contract at any time during the Contract. If tests performed by the OWNER result in failure or rejection for noncompliance, reimburse the OWNER for expenditures incurred in making such tests. Tests performed by the OWNER shall prevail in determining compliance with Contract requirements.
- C. Reimbursements to OWNER:
 - 1. Materials and equipment submitted by the CONTRACTOR as the equivalent to those specifically named in the Contract may be tested by the OWNER for compliance. Reimburse the OWNER for expenditures incurred

in making such tests on materials and equipment which are rejected for noncompliance.

2. Reimburse OWNER for the costs of any jobsite inspection outside the regular working hours identified in paragraph 7.02 of General Conditions and 7.02B of Supplementary Conditions.
3. Reimburse OWNER for all costs associated with Witness Tests which exceed 5 Calendar Days per kind of equipment.

1.8 ACCEPTANCE TESTS

- A. Preliminary Field Tests: As soon as conditions permit, furnish all labor and materials and services to perform preliminary field tests of all equipment provided under this Contract. If the preliminary field tests disclose that any equipment furnished and installed under this Contract does not meet the requirements of the Contract Documents, make all changes, adjustments and replacements required prior to the acceptance tests.
- B. Final Field Tests: Upon completion of the Work and prior to final payment, subject all equipment, piping and appliances installed under this Contract to specified acceptance tests to demonstrate compliance with the Contract Documents.
 1. Furnish all labor, fuel, energy, water and other materials, equipment, instruments and services necessary for all acceptance tests.
 2. Conduct field tests in the presence of the ENGINEER. Perform the field tests to demonstrate that under all conditions of operation each equipment item:
 - a. Has not been damaged by transportation or installation
 - b. Has been properly installed
 - c. Has been properly lubricated
 - d. Has no electrical or mechanical defects
 - e. Is in proper alignment
 - f. Has been properly connected
 - g. Is free of overheating of any parts
 - h. Is free of all objectionable vibration
 - i. Is free of overloading of any parts
 - j. Operates as intended
- C. Failure of Tests: If the acceptance tests reveal defects in material, or if the material in any way fails to comply with the requirements of the Contract Documents, then promptly correct such deficiencies. Failure or refusal to correct the deficiencies, or if the improved materials or equipment, when tested again, fail

to meet the guarantees or specified requirements, the OWNER, notwithstanding its partial payment for work and materials or equipment, may reject said materials or equipment and may order the CONTRACTOR to remove the defective work from the site at no addition to the Contract Price, and replace it with material which meets the Contract Documents.

1.9 FAILURE TO COMPLY WITH CONTRACT

- A. Unacceptable Materials: If it is ascertained by testing or inspection that the material or equipment does not comply with the Contract, do not deliver said material or equipment, or if delivered remove it promptly from the site or from the Work and replace it with acceptable material without additional cost to the OWNER. Fulfill all obligations under the terms and conditions of the Contract even though the OWNER or the OWNER's Authorized Representatives fail to ascertain noncompliance or notify the CONTRACTOR of noncompliance.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION

(NO TEXT FOR THIS PAGE)

SECTION 01 45 50

LEAKAGE TESTS

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes: Testing for any signs of leakage in pipelines and structures required to be watertight.

1. Test air and gas lines with compressed air.
2. Test other pipelines with water under the specified pressures. For testing performed with water, use only potable water.

1.2 PERFORMANCE REQUIREMENTS

- A. Written Notification of Testing: Provide written notice when the work is ready for testing, and make the tests as soon thereafter as possible.

1. Personnel for reading meters, gauges, or other measuring devices, will be furnished by the CONTRACTOR.
2. Furnish other labor, equipment, air, water and materials, including sample taps, corporation stops, meters, backflow preventers, gauges, smoke producers, blowers, pumps, pipes, compressors, fuel, water, bulkheads, permits, and accessory equipment.

1.3 REFERENCES

- A. Codes and standards referred to in this Section are:

1. AWWA C600 - Installation of Ductile-Iron Mains and Their Appurtenances

1.4 SUBMITTALS

- A. General: Furnish submittals, including the following, as specified in Division 1.

- B. Shop Drawings, Product Data, and Information:

1. Leak testing plan showing proposed testing method, procedures, and recording procedures.

2. A color audio-visual recording of the entire inside of the pipelines constructed prior to final acceptance of the Work. Provide video with media, information, audio, indexing, visibility, coverage, and operation in accordance with Section 01 44 00.

C. Quality Control:

1. Testing Report: Prior to placing the pipeline in service, submit for review and approval a detailed bound report summarizing the leakage test data and results, describing the test procedure and showing the calculations on which, the leakage test data is based.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.1 PRESSURE TESTS OF BURIED OR CONCEALED PIPELINES

- A. Testing: Completely backfill harnessed sections of buried piping before such sections are tested.
 1. Pressure test buried or concealed pipelines for leakage by maintaining the fluid in the pipe at the specified pressure for a minimum period of 2 hours.
 2. Pressure test the piping for leakage as a whole or in sections, valved or bulkheaded at the ends. Apply the specified pressure to the piping through a tap in the pipe by means of a hand pump or other approved method. Do not use air for testing.
- B. Test Pressures: Pressure test new pipe in accordance with AWWA C600 and these specifications. Test the piping at the test pressures specified in Section 33 05 50.
 1. For test pressures expressed in terms of the Hydraulic Grade Line (HGL), determine the test pressure by using the following formula. For example, if the specified test pressure is an HGL of 1,150 feet and the pipeline test station location pressure sensor is at elevation 800 feet (PSEL), then the test pressure will be 152 psi $((1,150 \text{ ft} - 800 \text{ ft})/2.31 = 152 \text{ psi})$.

$$P = \frac{\text{HGL (ft)} - \text{PSEL (ft)}}{2.31}$$

in which P is the test pressure in psi gauge, HGL is the Hydraulic Grade Line in feet, and PSEL is the pipeline test station location pressure sensor elevation in feet.

- C. Allowable Leakage: Stop visible leakage. Do not allow leakage for any piping, as determined by the above test, to exceed the allowable leakage for pipelines as given by the following formula in Section 5.2 of AWWA C600:

$$L = \frac{S \times D \times (P)^{1/2}}{148,000}$$

in which L is the allowable leakage in gallons per hour, S is the length of pipeline tested in feet, D is the nominal diameter of the pipe in inches and P is the average test pressure in psi gauge.

- D. Provide means to directly measure quantities of water added during the test to maintain the prescribed pressure.

3.2 VALVE TESTING

- A. Testing: Operate valves in the section under test through several complete cycles of closing and opening. In addition, have the test pressure for each valve, when in the closed position, applied to one side of the valve only. Test each end of the valve in this manner.
1. Test valves in place, as far as practicable, and correct any defects in valves or connections.
- B. Test Pressure: Test each valve at the same test pressure as that specified for the pipe in which the valve is installed.
- C. Leakage: Stop external and internal leakage through the valves.
- D. Movement: Stop valve movement or structural distress.

3.3 GRAVITY SEWER LEAKAGE TESTING

- A. Testing: An exfiltration or infiltration test shall be performed with a minimum positive head of 2 feet at the highest point in the sewer line.
- B. After cleaning, flushing, and televising the sewer, install a bulkhead or inflatable plug at the furthest downstream manhole outlet. Fill the sewer system with clean water until the water level is a minimum of 2 feet above the crown of the pipe at the furthest point upstream. Denote the final water level prior to testing. The leakage shall be the volume of water added to maintain the water at that level.
- C. The leakage may not exceed 200 gallons per inch of pipe diameter per mile per day for any section of the system. Repair any new sewer pipe that does not meet the leakage criteria.

3.4 REPAIR OF PIPING LEAKS

A. Procedures: Repair leaks as follows:

1. Replace broken pipe or joint assemblies found to leak.
2. When leakage occurs in excess of the specified amount, locate and repair defective valves, pipe, cleanouts or joints.
3. If the excess leakage is determined to be caused by defective materials furnished, improper workmanship, or damage to the materials, make the necessary repairs or replacements at no addition to the Contract Price.
4. If defective portions cannot be located, remove and reconstruct as much of the original work as necessary to obtain piping that meets the leakage requirements specified herein and retest, at no addition to the Contract Price.

END OF SECTION

SECTION 01 50 00

CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. General Requirements
- B. Temporary Utilities
- C. Temporary Construction
- D. Barricades and Enclosures
- E. Fences
- F. Security
- G. Temporary Controls
- H. Traffic Regulation
- I. Field Offices and Sheds
- J. RESIDENT PROJECT REPRESENTATIVE's Field Office

1.2 GENERAL REQUIREMENTS

- A. Facilities: Furnish, install, maintain and remove all falsework, scaffolding, ladders, hoistways, braces, pumping plants, shields, trestles, roadways, sheeting, centering forms, barricades, drains, flumes, and the like, any of which may be needed in the construction of any part of the Work and which are not herein described or specified in detail. Accept responsibility for the safety and efficiency of such works and for any damage that may result from their failure or from their improper construction, maintenance or operation.
- B. First Aid: Maintain a readily accessible, completely equipped first aid kit at each location where work is in progress.
- C. Safety Responsibility: Accept sole responsibility for safety and security at the site. Indemnify and hold harmless the OWNER, ENGINEER, and the RESIDENT PROJECT REPRESENTATIVE, for any safety violation, or noncompliance with governing bodies and their regulations, and for accidents, deaths, injuries, or

damage at the site during occupancy or partial occupancy of the site by CONTRACTOR's forces while performing any part of the Work.

- D. Hazard Communication: Furnish two copies of the CONTRACTOR's Hazard Communication Program required under the latest OSHA regulations before beginning on site activities. Furnish two copies of amendments to Hazard Communications Program as they are prepared.

1.3 TEMPORARY UTILITIES

- A. Water: Provide all necessary and required water without additional cost, unless otherwise specified. If necessary, provide and lay water lines to the place of use; secure all necessary permits; pay for all taps to water mains, hydrants and for all water used at the established rates.
- B. Light and Power: Provide without additional cost to the OWNER temporary lighting and power facilities required for the proper construction and inspection of the Work. If, in the RESIDENT PROJECT REPRESENTATIVE's opinion, these facilities are inadequate, do NOT proceed with any portion of the Work affected thereby. Maintain temporary lighting and power until the Work is accepted.
- C. Heat: Provide temporary heat without additional cost to the OWNER, whenever required, for work being performed during cold weather to prevent freezing of concrete, water pipes, and other damage to the Work or existing facilities.
- D. Sanitary Facilities: Provide sufficient sanitary facilities for construction personnel without additional cost to the OWNER. Prohibit and prevent nuisances on the site of the Work or on adjoining property. Discharge any employee who violates this rule. Abide by all environmental regulations or laws applicable to the Work.
- E. Connections to Existing Utilities:
 - 1. Unless otherwise specified or indicated, make all necessary connections to existing facilities including structures, drain lines, and utilities such as water, sewer, gas, telephone, and electricity. In each case, obtain permission from the OWNER or the owning utility prior to undertaking connections. Protect facilities against deleterious substances and damage.
 - 2. Thoroughly plan in advance all connections to existing facilities. Have on hand at the time of undertaking the connections, all material, labor and required equipment. Proceed continuously to complete connections in minimum time. Arrange for the operation of valves or other appurtenances on existing utilities, under the direct supervision of the owning utility.

1.4 TEMPORARY CONSTRUCTION

- A. Bridges: Design and place suitable temporary bridges where necessary for the maintenance of vehicular and pedestrian traffic. Assume responsibility for the sufficiency and safety of all such temporary work or bridges and for any damage which may result from their failure or their improper construction, maintenance, or operation. Indemnify and hold harmless the OWNER, ENGINEER and the RESIDENT PROJECT REPRESENTATIVE from all claims, suits or actions, and damages or costs of every description arising by reason of failure to comply with the above provisions.

1.5 BARRICADES AND ENCLOSURES

- A. Protection of Workmen and Public: Erect and maintain at all times during the prosecution of the Work, barriers and lights necessary for the protection of Workmen and the Public. Provide suitable barricades, lights, "danger" or "caution" or "street closed" signs and watchmen at all places where the Work causes obstructions to normal traffic, excavation sites, or constitutes in any way a hazard to the public.
- B. Barricades and Lights:
 - 1. Protect all streets, roads, highways, excavations and other public thoroughfares which are closed to traffic; use effective barricades which display acceptable warning signs. Locate barricades at the nearest public highway or street on each side of the blocked section.
 - 2. Statutory Requirements: Install and maintain all barricades, signs, lights, and other protective devices within highway rights-of-way in strict conformity with applicable statutory requirements by the authority having jurisdiction.

1.6 FENCES

- A. Existing Fences: Obtain written permission from the OWNER prior to relocating or dismantling fences which interfere with construction operations. Reach agreements with the fence owner as to the period the fence may be left relocated or dismantled. Install adequate gates where fencing must be maintained. Keep gates closed and locked at all times when not in use.
- B. Restoration: Unless otherwise shown, replace fences either damaged or removed during construction activities with new materials of same type, size, and height, including gates, gate posts and line posts. The use of temporary fencing is required as necessary to maintain the integrity of fence systems which impound animals.

1.7 SECURITY

A. Preservation of Property:

1. Preserve from damage, all property along the line of the Work, in the vicinity of or in any way affected by the Work, the removal or destruction of which is not called for by the Drawings. Preserve from damage, public utilities, trees, lawn areas, building monuments, pipe and underground structures, and public streets. Note: Normal wear and tear of streets resulting from legitimate use by the CONTRACTOR are not considered as damage. Whenever damages occur to such property, immediately restore to its original condition. Costs for such repairs are incidental to the Contract.
2. In case of failure on the part of the CONTRACTOR to restore property or make good on damage or injury, the OWNER may, upon 24 hours written notice, proceed to repair, rebuild, or otherwise restore such property as may be deemed necessary, and the cost thereof will be deducted from any moneys due or which may become due to the CONTRACTOR under this Contract. If removal, repair or replacement of public or private property is made necessary by alteration of grade or alignment authorized by the OWNER and not contemplated by the Contract Documents, the CONTRACTOR will be compensated, in accordance with the General Conditions, provided that such property has not been damaged through fault of the CONTRACTOR or the CONTRACTOR's employees.

B. Public Utility Installations and Structures:

1. Public utility installations and structures include all poles, tracks, pipes, wires, conduits, vaults, manholes, and other appurtenances and facilities, whether owned or controlled by public bodies or privately owned individuals, firms or corporations, used to serve the public with transportation, gas, electricity, telephone, storm and sanitary sewers, water, or other public or private utility services. Facilities appurtenant to public or private property which may be affected by the Work are deemed included hereunder.
2. The Contract Documents contain data relative to existing public utility installations and structures above and below the ground surface. Existing public utility installations and structures are indicated on the Drawings only to the extent such information was made available to, or found by, the ENGINEER in preparing the Drawings. These data are not guaranteed for completeness or accuracy, and the CONTRACTOR is responsible for making necessary investigations to become fully informed as to the character, condition, and extent of all public utility installations and structures that may be encountered and that may affect the construction operations.

3. Contact utility locating service sufficiently in advance of the start of construction to avoid damage to the utilities and delays to the completion date. Call diggers hotline at (811) or (800) 242-8511 72 hours in advance of work to obtain the location of existing underground utilities to avoid damage to the utilities and delays to the completion date. Provide 72 hours' notice prior to the start of work in those areas to a designated locating service, utilities, governmental agencies and others reasonably assumed to have above and below ground utilities within the limits of construction. Excavation work shall not commence in any area where underground utilities have not been located.
4. Remove, replace, relocate, repair, rebuild, and secure any public utility installations and structures damaged as a direct or indirect result of the Work under this Contract. Costs for such work are incidental to the Contract. Contractor will be responsible and liable for any consequential damages done to or suffered by any public utility installations or structures. Assume and accept responsibility for any injury, damage, or loss which may result from or be consequent to interference with, or interruption or discontinuance of, any public utility service.
5. Repair or replace in kind any water, electric, sewer, gas, or other service connection damaged during the Work with no addition to the Contract price.
6. At all times in performance of the Work, employ proven methods and exercise reasonable care and skill to avoid unnecessary delay, injury, damage, or destruction to public utility installations and structures. Avoid unnecessary interference with, or interruption of, public utility services. Cooperate fully with the owners thereof to that end.
7. Give written notice to the owners of all public utility installations and structures affected by proposed construction operations, at least 72 hours in advance of breaking ground in any area or on any unit of the Work, to obtain their permission before disrupting the lines and to allow them to take measures necessary to protect their interests. Advise the Chiefs of Police, Fire and Rescue Services of any excavation in public streets or the temporary shut-off of any water main. Provide at least 24 hours notice to all affected property owners whenever service connections are taken out of service.

C. Maintenance of Public Services:

1. Temporarily remove and relocate existing mailboxes in order to maintain mail service during construction. If post is deteriorated, replace post and bracket and attach existing mailbox and paper box to new post. Re-install mailboxes in the original location at end of each day or provide temporary mailbox clusters where permanent mailboxes are not accessible for delivery due to construction.

2. Maintain access for refuse collection for the duration of the project. Coordinate with residents and business for collection days and typical placement of refuse containers.
- D. Work on Private Property: Work on this project will require operations on private property, rights of way or easements. The OWNER has secured the appropriate easements or rights of entry from the affected property owners. Comply with all easement or rights of entry provisions including the following:
- E. Conduct operations along rights-of-way and easements through private property to avoid damage to the property and to minimize interference with its ordinary use. Upon completion of the Work through such property, restore the other structures disturbed by the construction as nearly as possible to the preconstruction conditions. Restore all grades and facilities disturbed by construction activities to the original condition or better in accordance with the requirements of the authority having jurisdiction. Unless otherwise shown, replace fences either damaged or removed during construction activities with new materials of same type, size, and height, including gates, gate posts and line posts. Do not remove any material from private property without the consent of the property owner or responsible party in charge of such property. Hold harmless the OWNER from any claim or damage arising out of or in connection with the performance of work across and through private property.
- F. Miscellaneous Structures: Assume and accept responsibility for all injuries or damage to culverts, building foundations and walls, retaining walls, or other structures of any kind met with during the prosecution of the Work. Assume and accept liability for damages to public or private property resulting therefrom. Adequately protect against freezing all pipes carrying liquid.
- G. Protection of Trees, Shrubs, and Lawn Areas:
1. Protect trees, shrubs, and lawn area as specified in Section 31 10 00.
- 1.8 TEMPORARY CONTROLS
- A. During Construction:
1. Keep the site of the Work and adjacent premises free from construction materials, debris, and rubbish. Remove this material from any portion of the site if such material, debris, or rubbish constitutes a nuisance or is objectionable.
 2. Remove from the site all surplus materials and temporary structures when they are no longer needed.

3. Neatly stack construction materials such as concrete forms and scaffolding when not in use. Promptly remove splattered concrete, asphalt, oil, paint, corrosive liquids, and cleaning solutions from surfaces to prevent marring or other damage.
4. Properly store volatile wastes in covered metal containers and remove from the site daily.
5. Do not bury or burn on the site or dispose of into storm drains, sanitary sewers, streams, or waterways, any waste material. Remove all wastes from the site and dispose of in a manner complying with applicable ordinances and laws.
6. Dispose of all food-related trash items such as wrappers, cans, bottles, and food scraps in closed containers, and remove at least once a week from a construction or project site.
7. Only store equipment in roadway right-of-way provided it is protected from traffic using k-rails or other barriers. Do not disrupt traffic flows with storage of materials and equipment within the right-of-way and obtain approval by the authority having jurisdiction.
8. Immediately remove stored materials and equipment if the OWNER or an approved representative deems the placement disruptive to traffic or the public.
9. Only store material in roadway right-of way provided it is protected and does not pose a safety factor for the public. Storage of material must be within 500 feet of the active Work area and may not be stored in one location for more than three days.
10. Ensure that spotlights, light towers and any other form of site lighting are positioned minimize light pollution from spill light into residences.

B. Smoke Prevention:

1. Strictly observe all air pollution control regulations.
2. Open fires will not be allowed.

C. Noises:

1. Maintain acceptable noise levels in the vicinity of the Work per local requirements. Limit noise production to acceptable levels by using special mufflers, barriers, enclosures, equipment positioning, and other approved methods.

2. Ensure construction activities meet municipal code requirements related to noise.
3. Locate fixed construction equipment (such as compressors and generators) and construction staging areas as far as possible from nearby sensitive receptors including residences, schools, and hospitals.
4. Coordinate with facility owners or administrators of sensitive land uses such as police and fire stations, transit stations, hospitals, and schools. Provide advance notification to the facility owner or operator of the timing, location, and duration of significant noise producing construction activities.

D. Crack Survey:

1. Collaborate with the OWNER to conduct crack surveys in the case of jack and bore drilling within 15 feet of any structure. Perform surveys with photographs, video, or visual inventory, and include inside as well as outside locations. Document all existing cracks in walls, floors, and driveways with sufficient detail for comparison after construction to determine whether actual vibration damage occurred.
2. Collaborate with the OWNER to conduct post-construction surveys to document the condition of the surrounding buildings after the construction is complete.

E. Hours of Operation:

1. Operation of construction equipment outside the hours indicated in Division 0 is prohibited. For operation of this equipment during this period obtain written consent from the OWNER.
2. Do not carry out nonemergency work, including equipment moves, on Saturdays, Sundays and holidays defined in Division 0 without prior written authorization by the OWNER.
3. Inform the OWNER when emergency work is required, which may be done without prior permission.

F. Dust Control:

1. Submit for approval, and then implement, a Dust Control Plan to the ENGINEER at least 30 days prior to the start of any construction field activity. Include the following measures in the Dust Control Plan:
2. Perform dust control operations to prevent construction operations from producing dust in amounts harmful to persons or causing a nuisance to persons living nearby or occupying buildings in the vicinity of the Work.

3. Take measures to prevent unnecessary dust. Keep exposed earth surfaces moist with water or a chemical dust suppressant. Cover granular materials while in transit to prevent blowing or spreading dust.
4. Control fugitive dust emissions from all land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, and demolition activities by utilizing application of water (at least two times per day or as needed) or by presoaking.
5. When transporting materials offsite, cover all materials or effectively wet materials to limit visible dust emissions, and maintain at least six inches of freeboard space from the top of the container.
6. Adequately protect buildings or operating facilities which may be affected adversely by dust. Protect machinery, motors, instrument panels, or similar equipment by suitable dust screens. Include proper ventilation with dust screens.
7. Clean roadways which have accumulated dust and debris as needed or as required by the RESIDENT PROJECT REPRESENTATIVE.
8. Limit or expeditiously remove the accumulation of mud or dirt from public roadways used as site access at the end of each Work day. However, the use of blower devices is not acceptable, and the use of dry rotary brushes is not acceptable except when preceded or accompanied by sufficient wetting to limit the visible dust emissions.
9. Immediately remove trackout when it extends 25 or more feet from the site and at the end of each Workday.
10. Install wheel washers for all exiting trucks or wash off all trucks and equipment leaving the site.
11. Limit area subject to excavation, grading, and other construction activity at any one time.

G. Temporary Drainage Provisions:

1. Provide for the drainage of stormwater and any water applied or discharged on the site in performance of the Work. Provide adequate drainage facilities to prevent damage to the Work, the site, and adjacent property.
2. Supplement existing drainage channels and conduits as necessary to convey all increased runoff from construction operations. Construct dikes as necessary to divert increased runoff from entering adjacent property (except in natural channels), to protect the OWNER's facilities and the Construction

Area, and to direct water to drainage channels or conduits. Provide ponding as necessary to prevent downstream flooding.

3. Maintain excavations free of water. Provide, operate, and maintain pumping equipment.

H. Erosion Control: Provide erosion control in accordance with Section 31 25 00.

I. Pollution: Prevent the pollution of drains and watercourses by sanitary wastes, sediment, debris, and other substances resulting from construction activities. Do not permit sanitary wastes to enter any drain or watercourse other than sanitary sewers. Do not permit sediment, debris, or other substances to enter sanitary sewers.

1. Report hazardous spills of chemical, pollutant, lubricant, or similar per guidelines from Wisconsin Department of Natural Resources.

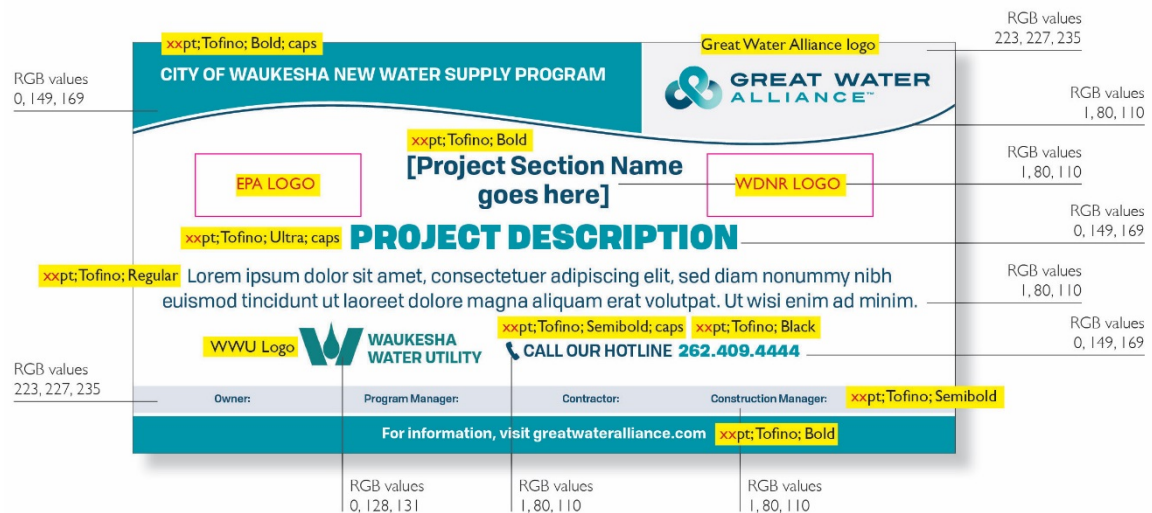
J. Project Signage:

1. Provide three copies of the two signs specified below. These sign guidance sections represent the general layout of the signs, but actual words will vary. Coordinate with the OWNER to obtain the final sign layout and wording. While guidelines for placement are included below, final locations for installation will be determined and coordinated with the RESIDENT PROJECT REPRESENTATIVE. Maintain signs and supports, clean and repair deterioration and damage. Remove signs, framing, supports, and foundations at completion of project and restore area.

2. Great Water Alliance Construction Sign

- a. Develop a sign to identify the project's funding sources, utilizing the template shown below.
- b. In the signs, incorporate relevant logos, i.e. Safe Drinking Water Loan Program (SDWLP), U.S. Environmental Protection Agency and any other logo as needed and dependent on the funding sources, and design in like manner as shown below.
- c. Space logos equally along the length of the sign and at least 1-1/2" below the top of the sign.
- d. Center the funding sign verbiage across the length of the sign in the largest Tofino font possible to incorporate the entire message.
- e. Construct the sign with 1/2" single face omega board (4'x8').

- f. Provide the sign background on white omega board with four-color process print as specified. Provide sign edges with covered and trimmed white vinyl edge (typical omega board finish).
- g. Unless otherwise directed, the sign shall become the property of the OWNER upon completion of the project.
- h. No direct payment will be made for the project sign. All costs for the sign are incidental to the Contract.
- i. Attach sign to two 4'x4' wolmanized posts (painted white) 10' long with a minimum bury of 3'.
- j. Provide post 2' on-center from edges of sign and flush top of posts with top of sign.
- k. Fasten sign to post with six 3/8"x 3 1/2" galvanized lag bolts with galvanized cut washer. Three per post, 6" from top/bottom and at 2' midpoint. Bolt heads are to be painted with enamel paint to match the sign colors.
- l. Original artwork and design files will be provided by the OWNER.
- m. Post project signage before construction commences.
- n. Develop signs with graffiti-proof coating.



3. Construction Information Signage

- a. A sign shall be developed that describes permitted construction days and hours, a day and evening contact number for the job site, and a contact number in the event of problems. This shall utilize the template shown below.
- b. The sign shall be posted at the construction site, visible to the public.
- c. The sign shall be constructed with ½” single face omega board (4’x8’).
- d. The sign background shall be on white omega board with four-color process print as specified. Sign edges shall be covered and trimmed white vinyl edge (typical omega board finish).
- e. The CONTRACTOR shall erect and maintain the sign until the project is completed and accepted.
- f. Unless otherwise directed, the sign shall become the property of the OWNER upon completion of the project.
- g. No direct payment will be made for the project sign. All costs for the sign are incidental to the Contract.

	RGB values 1, 80, 110	RGB values 1, 80, 110	RGB values 0, 149, 169
CITY OF WAUKESHA NEW WATER SUPPLY PROGRAM			Great Water Alliance logo
CONSTRUCTION RULES			
JOB ADDRESS FPO			RGB values 0, 149, 169
JOB DESCRIPTION FPO			
Noise ordinance will be strictly enforced			RGB values 1, 80, 110
• No radios or music shall be audible beyond the construction site property line.			
Construction Hours			RGB values 1, 80, 110
• CONSTRUCTION HOURS			
Parking			RGB values 1, 80, 110
• No Blocking of Adjacent Driveways, No Blocking of Traffic Flow			
Contact Phone Numbers - 24 hours / 7 days a week			RGB values 1, 80, 110
• Builder: BUILDER NAME			RGB values 0, 149, 169
• Telephone #: TELEPHONE NUMBER			
IF NO RESPONSE BY BUILDER CALL			RGB values 1, 80, 110
262.409.4444 info@greatwateralliance.com greatwateralliance.com			RGB values 0, 149, 169
THIS NOTICE IS REQUIRED TO BE POSTED ON THIS JOB SITE AT ALL TIMES			RGB values 0, 149, 169



1.9 TRAFFIC REGULATION

A. Parking:

1. Provide and maintain suitable parking areas for the use of all construction workers and others performing work or furnishing services in connection with the Contract, to avoid any need for parking personal vehicles where they may interfere with public traffic or construction activities.
2. Parking vehicles is permitted on public streets on which parking is permitted by local and state codes and ordinances. Do not block access to property owners.
3. When site space is not adequate, provide additional off-site parking.
4. Maintain traffic and parking areas. Areas shall remain clear of excavated material, construction equipment, material products, and mud.
5. Maintain existing paved areas used for construction that are not called out to be removed; promptly repair breaks, potholes, low areas, standing water, and other deficiencies caused by construction. Repair these areas to preconstruction condition at a minimum or as specified.
6. Remove mud from vehicle wheels before exiting the construction site.

B. Access:

1. Conduct Work in a manner with minimal interference to public travel, whether vehicular or pedestrian. Provide and maintain suitable and safe bridges, detours, or other temporary routes for the accommodation of public and private travel.
2. Whenever it is necessary to cross, obstruct, or close roads, driveways, and walks, whether public or private, give reasonable notice to owners of private drives before interfering with them. Such maintenance of traffic will not be required when the CONTRACTOR has obtained permission from the owner or tenant of private property, or from the authority having jurisdiction over the public property involved, to obstruct traffic at the designated point.
3. Prepare and submit a report to the RESIDENT PROJECT REPRESENTATIVE that identifies the driveways, property access points, and sidewalks that will be affected within each road segment that will be closed and the duration the driveway, property access point, or sidewalk will be affected and inaccessible. Prepare and submit the report as a supplement to the construction schedule, and update and submit along with the traffic control plans that will be prepared for each road segment that will be closed.

4. Reinstate these driveways, property access points, or sidewalks accessible within 36 hours of making them inaccessible.
5. Provide an ADA compliant access option for any Works involving closing or restricting access to a driveway or sidewalk.
6. Protect to the greatest extent possible the sidewalks immediately adjacent to the pipeline trench. These sidewalks must be completely repaired or reconstructed before final paving operations are performed and before the CONTRACTOR moves on to the next road segment that will be closed. In all cases, maintain safe access to properties until the sidewalk repair or replacement is complete.
7. Maintain access to driveways and property access points not directly affected by trenching and pipeline installation operations but affected by the CONTRACTOR's work zone.
8. Provide for the safe passage of pedestrians and vehicles to these properties during working hours.
9. Under no circumstances restrict access to properties during non-working hours without prior notice undertaken in collaboration with the OWNER.
10. Ensure access for emergency vehicles is maintained at all times.
11. Maintain business access during business hours, with construction wait times no longer than 10 minutes.
12. Maintain residential access with limited duration closures during construction activity. No overnight closures permitted unless prior written authorization obtained.
13. Replace in-kind all signs and street marking damage caused by or related to the construction of projects. In the case of partial damage to lane stripes and traffic lettering replace the whole stripe or marking in its entirety.
14. Provide the following:
 - a. 72-hour notification to affected residents, businesses, and others on outages and closures;
 - b. 24-hour notification to affected residents, businesses, and others on outages and closures; and
 - c. "Day of" notification to affected residents, businesses, and others on outages and closures.

1.10 TRAFFIC CONTROL:

- A. Take responsibility of the traffic control. Allow for local traffic and must maintain access for emergency vehicles at all times.
- B. Provide a Traffic Control Plan for review and approval by the ENGINEER two weeks prior to construction. At a minimum, traffic control will be in accordance with the traffic control plans and WisDOT SDDs included in the Construction Drawings. Obtain approval from the City of Franklin, City of Muskego, City of New Berlin, Milwaukee County, Waukesha County, and Wisconsin Department of Transportation for alterations to traffic control phases shown on the Drawings. The Traffic Control Plan will meet the requirements of the WisDOT Permit to Construct, Operate and Maintain Utility Facilities on Highway Right-of-Way for this project and the Drawings.
- C. Comply with roadside safety protocols. Provide "Road Work Ahead" warning signs and speed control (including signs informing drivers of state-legislated double fines for speed infractions in a construction zone) to achieve reductions for safe traffic flow through the Work zone.
- D. All traffic control for utility work and potholing operations will abide by the current editions of:
 - 1. The Wisconsin Manual on Uniform Traffic Control Devices (WMUTCD) and any supplements thereto.
 - 2. The booklet, work zone safety, guidelines for construction, maintenance, and utility operations, published by the Transportation Information Center - LTAP, University Of Wisconsin - Madison.
 - 3. Sections 637 and 643 in WisDOT's Standard Specifications for Highway and Structure Construction.
 - 4. The specific provisions on the Contract Drawings.
 - 5. WisDOT permit conditions.
 - 6. Waukesha County permit conditions.
- E. Wisconsin Lane Closure System (LCS) Notification: Lane, shoulder, ramp closures or encroachments on STH 59/164 require lane closure notification to the Southeast Region Traffic Engineer. The LCS request will be sent to WisDOT for review and approval 14 calendar days prior to the need for a freeway closure, or 3 working days prior to the need for a non- freeway closure.
- F. Limit, where possible, the pipeline construction Work zone to a width that, at a minimum, maintains alternate one-way traffic flow past the construction zone.

Parking may be prohibited if necessary to facilitate construction activities or traffic movement. If the Work zone width will not allow a 10-foot-wide paved travel lane, then the road will be closed to through-traffic (except emergency vehicles) and detour signing on alternative access streets will be used.

- G. No utility work will begin until all appropriate warning signs, devices, and public protection methods are in place and fully functional, which will be maintained until all utility work is complete. For those operations that entirely close or encroach a traffic lane, a proper traffic control plan will be submitted or made reference to (e.g. Work Zone Safety Booklet page 25) with a utility's permit application.
- H. Warning signs will have prismatic, reflectorized sheeting material that complies with Section 643.2.9.2 of WisDOT's Standard Specifications for Highway and Structure Construction, latest edition. Warning signs will be removed, covered, turned, or laid flat when workers or workers' vehicles are not at the job site or when the signs' messages are not relevant. Barricades and barrels will be reflectorized with Type H reflective sheeting as a minimum. Cones used during nighttime operations will be at least 28 inches in height and reflectorized.
- I. Notify WisDOT 3 working days prior to starting work.
- J. Take responsibility for the erection and maintenance of all barricades, lights and signs necessary for public safety and convenience in accordance with all applicable requirements. In general, all hazards within the limits of the work or on detour around the work must be marked with well-painted, well-maintained barricades, reflectors, electric lights, flashers and warning and directional signs in sufficient quantity and size adequate to protect life and property. These safeguards will be moved, changed, increased or removed as required during the progress of the work to meet changing conditions.
- K. Store all equipment and materials in designated contractor staging areas on or adjacent to the Worksite, in such a manner to minimize obstruction to traffic.
- L. When a street is closed to through traffic, barricades will be placed at the adjacent intersections as well as at the location of the obstruction. Detour signs will be attached to the barricades at the adjacent intersections and along the detour route. Detour signs will be adequately illuminated and/or reflectorized so as to be clearly visible at all times. Include signage to direct pedestrians and bicyclists around project construction Work zones that displace and/or bike lanes.
- M. For street closures, provide details related to the notification of all emergency services, such as police and fire, and other services, such as mail and garbage collection.

- N. Control and monitor construction vehicle movements through the enforcement of standard construction specifications by periodic onsite inspections.
- O. To the extent feasible, and as needed to avoid adverse impacts on traffic flow, schedule truck trips outside of peak morning and evening commute hours. Limit lane closures during peak hours to the extent possible.
- P. Restore roads and streets to normal operations by covering trenches with steel plates outside of normal operation by covering trenches with steel plates outside of allowed working hours or when Work is not in progress.
- Q. The RESIDENT PROJECT REPRESENTATIVE reserves the right to require that "snow fence" be installed at locations where streets or alleys are closed for the full width of the roadway. Barricades will be maintained in rigidly assembled condition. All warning devices will be kept clean and in good repair so as to be readily discernible at all times.
- R. Whenever the operations obstruct or endanger a traffic lane and no marked detour has been provided, furnish a flagman to direct traffic through or around the congested area. The RESIDENT PROJECT REPRESENTATIVE will have the right to require additional flaggers as deemed necessary.
- S. Adequate protection will be provided around all openings wherever required to safeguard the work or the public. All openings and surface obstructions will be protected with barricades, signs and warning devices in accordance with local requirements.
- T. As a minimum, the provisions of the FHWA "Manual for Uniform Traffic Control Devices" will be met. All traffic control procedures will be subject to the approval of the WisDOT and the RESIDENT PROJECT REPRESENTATIVE.
- U. Coordinate with facility owners or administrators of sensitive land uses such as police and fire stations, transit stations, hospitals, and schools. Provide advance notification to the facility owner or operator of the timing, location, and duration of construction activities and the locations of detours and lane closures.
- V. Coordinate construction activities, to extent possible, to minimize traffic disturbances adjacent to schools (e.g., do work during summer months when there is less activity at schools). For construction activities that occur during the school year, then at the start and end of the school day at schools adjacent to a pipeline project, the contractor(s) will provide flaggers in the school areas to ensure traffic and pedestrian safety.
- W. Coordinate with transit providers (e.g. Waukesha Metro Transit and Milwaukee County Transit System) so providers can temporarily relocate bus routes or bus stops in Work zones as it deems necessary.

1.11 TRAFFIC CONTROL DEVICES

- A. Remove all traffic control devices not in use, or that will not be used for a period greater than 24 hours. Do not use the sidewalk area at any time to store unused traffic control devices unless the sidewalk is closed, and an approved barricade plan is provided for rerouting pedestrians.
- B. Maintain all barricades and other traffic control devices in clean and effective condition and replace devices in poor condition immediately.
- C. Install Portable Changeable Message Sign (PCMS) boards, set at each location as depicted on the traffic handling plans, seven days prior to commencing Work. The PCMS boards can be removed once all temporary traffic control features have been implemented to the satisfaction of the OWNER.

1.12 FIELD OFFICES AND SHEDS

- A. CONTRACTOR's Office: At the CONTRACTOR's discretion, erect, furnish, and maintain a field office with a telephone.
- B. Material Sheds and Temporary Structures: Provide material sheds and other temporary structures of sturdy construction and neat appearance if required.
- C. Location: Coordinate location of field offices, material sheds and temporary structures with RESIDENT PROJECT REPRESENTATIVE.

1.13 RESIDENT PROJECT REPRESENTATIVE'S FIELD OFFICE

- A. The RESIDENT PROJECT REPRESENTATIVE's field office, including field office trailer, will be provided by others as part of Contract Package 3.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION

SECTION 01 60 00
MATERIAL AND EQUIPMENT

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Description
- B. Substitutions
- C. Manufacturer's Written Instructions
- D. Transportation and Handling
- E. Storage, Protection and Maintenance
- F. Manufacturer's Field Quality Control Services
- G. Post Startup Services
- H. Special Tools and Lubricating Equipment
- I. Lubrication
- J. Related Work Specified In Other Sections Includes, but is Not Limited to, the Following:
 - 1. Section 01 11 00 - Summary of Work
 - 2. Section 01 33 00 – Submittals
 - 3. Section 01 45 00 – Quality Control
 - 4. Section 01 50 00 - Construction Facilities and Temporary Controls
 - 5. Section 01 79 00 - Training

1.2 DESCRIPTION

- A. Proposed Manufacturers List: Within 15 calendar days of the date of the Notice to Proceed, submit to the ENGINEER and RESIDENT PROJECT REPRESENTATIVE a list of the names of proposed manufacturers, material men, suppliers and subcontractors, obtain approval of this list by OWNER prior to submission of any shop drawings. Upon request submit evidence to ENGINEER that each proposed manufacturer has manufactured a similar product to the one specified and that it has previously been used for a like purpose for a sufficient length of time to demonstrate its satisfactory performance.

B. Furnish and install Material and Equipment which meets the following:

1. Conforms to applicable specifications and standards.
2. Complies with size, make, type, and quality specified or as specifically approved, in writing, by ENGINEER.
3. Will fit into the space provided with sufficient room for operation and maintenance access and for properly connecting piping, ducts and services, as applicable. Make the clear spaces that will be available for operation and maintenance access and connections equal to or greater than the manufacturers' requirements. Make provisions for installing equipment furnished.
4. Manufactured and fabricated in accordance with the following:
 - a. Design, fabricate, and assemble in accordance with best engineering and shop practices.
 - b. Manufacture like parts of duplicate units to standard sizes and gauges, to be interchangeable.
 - c. Provide two or more items of same kind identical, by same manufacturer.
 - d. Provide materials and equipment suitable for service conditions.
 - e. Adhere to equipment capabilities, sizes, and dimensions shown or specified unless variations are specifically approved, in writing.
 - f. Adapt equipment to best economy in power consumption and maintenance. Proportion parts and components for stresses that may occur during continuous or intermittent operation, and for any additional stresses that may occur during fabrication or installation.
 - g. Working parts are readily accessible for inspection and repair, easily duplicated and replaced.
5. Use material or equipment only for the purpose for which it is designed or specified.

1.3 SUBSTITUTIONS

A. Substitutions:

1. CONTRACTOR's requests for changes in equipment and materials from those required by the Contract Documents are considered requests for

substitutions and are subject to CONTRACTOR's representations and review provisions of the Contract Documents when one of following conditions are satisfied:

- a. Where request is directly related to an "or equal" clause or other language of same effect in Specifications.
- b. Where required equipment or material cannot be provided within Contract Time, but not as result of CONTRACTOR's failure to pursue Work promptly or to coordinate various activities properly.
- c. Where required equipment or material cannot be provided in manner compatible with other materials of Work, or cannot be properly coordinated therewith.
- d. In the event a substitution is approved, the OWNER will require from the CONTRACTOR a credited deduction from the Contract amount equal to any savings in material cost resulting from use of the proposed substitute.

2. CONTRACTOR's Options:

- a. Where more than one choice is available as options for CONTRACTOR's selection of equipment or material, select option compatible with other equipment and materials already selected (which may have been from among options for other equipment and materials).
- b. Where compliance with specified standard, code or regulation is required, select from among products which comply with requirements of those standards, codes, and regulations.
- c. "Or Equal": For equipment or materials specified by naming one or more equipment manufacturer and "or equal", submit request for substitution for any equipment or manufacturer not specifically named.

B. Conditions Which are Not Substitution:

1. Requirements for substitutions do not apply to CONTRACTOR options on materials and equipment provided for in the Specifications.
2. Revisions to Contract Documents, where requested by OWNER or ENGINEER, are "changes" not "substitutions".
3. CONTRACTOR's determination of and compliance with governing regulations and orders issued by governing authorities do not constitute

substitutions and do not constitute basis for a Change Order, except as provided for in Contract Documents.

1.4 MANUFACTURER'S WRITTEN INSTRUCTIONS

- A. Instruction Distribution: When the Contract Documents require that installation, storage, maintenance and handling of equipment and materials comply with manufacturer's written instructions, obtain and distribute printed copies of such instructions to parties involved in installation, including copies to ENGINEER. Provide copies to ENGINEER in accordance with Section 01 33 00.
 - 1. Maintain one set of complete instructions at jobsite during storage and installation, and until completion of work.
- B. Manufacturer's Requirements: Store, maintain, handle, install, connect, clean, condition, and adjust products in accordance with manufacturer's written instructions and in conformity with Specifications.
 - 1. Should job conditions or specified requirements conflict with manufacturer's instructions, consult RESIDENT PROJECT REPRESENTATIVE for further instructions.
 - 2. Do not proceed with corresponding work without written instructions.
- C. Performance Procedures: Perform work in accordance with manufacturer's written instructions. Do not omit preparatory steps or installation procedures, unless specifically modified or exempted by Contract Documents.

1.5 TRANSPORTATION AND HANDLING

- A. Coordination with Schedule: Arrange deliveries of materials and equipment in accordance with Construction Progress Schedules. Coordinate to avoid conflict with work and conditions at site.
 - 1. Deliver materials and equipment in undamaged condition, in manufacturer's original containers or packaging, with identifying labels intact and legible.
 - 2. Protect bright machined surfaces, such as shafts and valve faces, with a heavy coat of grease prior to shipment.
 - 3. Immediately upon delivery, inspect shipments to determine compliance with requirements of Contract Documents and approved submittals and that material and equipment are protected and undamaged.
- B. Handling: Provide equipment and personnel to handle material and equipment by methods recommended by manufacturer to prevent soiling or damage to materials and equipment or packaging.

1.6 STORAGE, PROTECTION, AND MAINTENANCE

A. On-site storage areas and buildings:

1. Conform storage buildings to requirements of Section 01 50 00.
2. Coordinate location of storage areas with RESIDENT PROJECT REPRESENTATIVE and OWNER.
3. Arrange on site storage areas for proper protection and segregation of stored materials and equipment with proper drainage. Provide for safe travel around storage areas and safe access to stored materials and equipment.
4. Store loose granular materials in a well-drained area on solid surfaces to prevent mixing with foreign matter.
5. Store materials such as pipe, reinforcing and structural steel, and equipment on pallets, blocks or racks, off ground.
6. Store fabricated materials and equipment above ground, on blocking or skids, to prevent soiling or staining. Cover materials and equipment which are subject to deterioration with impervious sheet coverings; provide adequate ventilation to avoid condensation.

B. Interior Storage:

1. Store materials and equipment in accordance with manufacturer's instructions, with seals and labels intact and legible.
2. Store materials and equipment, subject to damage by elements, in weathertight enclosures.
3. Maintain temperature and humidity within ranges required by manufacturer's instructions.

C. Accessible Storage: Arrange storage in a manner to provide easy access for inspection and inventory. Make periodic inspections of stored materials or equipment to assure that materials or equipment are maintained under specified conditions and free from damage or deterioration.

1. Perform maintenance on stored materials of equipment in accordance with manufacturer's instructions, in presence of OWNER or RESIDENT PROJECT REPRESENTATIVE.
2. Submit a report of completed maintenance to RESIDENT PROJECT REPRESENTATIVE with each Application for Payment.

3. Failure to perform maintenance, to notify RESIDENT PROJECT REPRESENTATIVE of intent to perform maintenance or to submit maintenance report may result in rejection of material or equipment.
- D. OWNER's Responsibility: OWNER has no responsibility for materials or equipment stored in buildings or on-site. CONTRACTOR assumes full responsibility for damage due to storage of materials or equipment.
- E. CONTRACTOR's Responsibility: CONTRACTOR has full responsibility for protection of completed construction. Repair and restore damage to completed Work equal to its original condition.
- F. Special Equipment: Use only rubber tired wheelbarrows, buggies, trucks, or dollies to wheel loads over finished floors, regardless if the floor has been protected or not. This applies to finished floors and to exposed concrete floors as well as those covered with composition tile or other applied surfacing.
- G. Surface Damage: Where structural concrete is also the finished surface, take care to avoid marking or damaging surface.

1.7 MANUFACTURER'S FIELD QUALITY CONTROL SERVICES

- A. General:
 1. Provide manufacturer's field services in accordance with this subsection for those tasks specified in other sections.
 2. Provide training as specified in Section 01 79 00.
 3. Include and pay all costs for suppliers' and manufacturers' services, including, but not limited to, those specified.
- B. Installation Instruction: Provide instruction by competent and experienced technical representatives of equipment manufacturers or system suppliers as necessary to resolve assembly or installation procedures which are attributable to, or associated with, the equipment furnished.
- C. Installation Inspection, Adjustments and Startup Participation:
 1. Provide competent and experienced technical representatives of equipment manufacturers or system suppliers to inspect the completed installation as follows.
 - a. Verify that each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, control sequence, or for other conditions which may cause damage.

- b. Verify that tests, meter readings, and specified electrical characteristics agree with those required by the equipment or system manufacturer.
 - c. Verify that wiring and support components for equipment are complete.
 - d. Verify that equipment or system is installed in accordance with the manufacturer's recommendations, approved shop drawings and the Contract Documents.
 - e. Verify that nothing in the installation voids any warranty.
- 2. Provide manufacturer's representatives to perform initial equipment and system adjustment and calibration conforming to the manufacturer's recommendations and instructions, approved shop drawings and the Contract Documents.
- 3. Obtain RESIDENT PROJECT REPRESENTATIVE's approval before start-up of equipment. Execute start-up under supervision of applicable manufacturer's representative in accordance with manufacturers' instructions.
- 4. Furnish RESIDENT PROJECT REPRESENTATIVE with copies of the following in the format and quantity specified in Section 01 33 00. When training is specified, furnish the copies at least 24 hours prior to training.
 - a. "Certificate of Installation, Inspection and Start-up Services" by manufacturers' representatives for each piece of equipment and each system specified, certifying:
 - (1) That equipment is installed in accordance with the manufacturers' recommendations, approved shop drawings and the Contract Documents.
 - (2) That nothing in the installation voids any warranty.
 - (3) That equipment has been operated in the presence of the manufacturer's representative.
 - (4) That equipment, as installed, is ready to be operated by others.
 - b. Detailed report by manufacturers' representatives, for review by RESIDENT PROJECT REPRESENTATIVE of the installation, inspection and start-up services performed, including:

- (1) Description of calibration and adjustments if made; if not in Operation and Maintenance Manuals, attach copy.
 - (2) Description of any parts replaced and why replaced.
 - (3) Type, brand name, and quantity of lubrication used, if any.
 - (4) General condition of equipment.
 - (5) Description of problems encountered, and corrective action taken.
 - (6) Any special instructions left with CONTRACTOR or RESIDENT PROJECT REPRESENTATIVE.
- D. Field Test Participation: Provide competent and experienced technical representatives of all equipment manufacturers and system suppliers as necessary to participate in field testing of the equipment specified in Section 01 45 00.
- E. Trouble-Free Operation: Provide competent and experienced technical representatives of all equipment manufacturers and system suppliers as necessary to place the equipment in trouble-free operation after completion of start-up and field tests.

1.8 SPECIAL TOOLS AND LUBRICATING EQUIPMENT

- A. General: Furnish, per manufacturer's recommendations, special tools required for checking, testing, parts replacement, and maintenance. (Special tools are those which have been specially designed or adapted for use on parts of the equipment, and which are not customarily and routinely carried by maintenance mechanics.)
- B. Time of Delivery: Deliver special tools and lubricating equipment to OWNER when unit is placed into operation and after operating personnel have been properly instructed in operation, repair, and maintenance of equipment.
- C. Quality: Provide tools and lubricating equipment of a quality meeting equipment manufacturer's requirements.

1.9 LUBRICATION

- A. General: Where lubrication is required for proper operation of equipment, incorporate in the equipment the necessary and proper provisions in accordance with manufacturer's requirements. Where possible, make lubrication automated and positive.
- B. Oil Reservoirs: Where oil is used, supply reservoir of sufficient capacity to lubricate unit for a minimum 24-hour period.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION

CERTIFICATE OF INSTALLATION, INSPECTION AND START-UP SERVICES

Project _____

Equipment _____

Specification Section _____

Contract _____

I hereby certify that the named equipment has been inspected, adjusted and operated by the Manufacturers' Representative and further certify:

1. That the equipment is installed in accordance with the manufacturer's recommendations, approved shop drawings and the Contract Documents.
2. That nothing in the installation voids any warranty.
3. That equipment has been operated in the presence of the manufacturer's representative.
4. That equipment, as installed, is ready to be operated by others.

MANUFACTURERS' REPRESENTATIVE

Signature _____ Date _____

Name (print) _____

Title _____

Representing _____

CONTRACTOR

Signature _____ Date _____

Name (print) _____

Title _____

Attach the detailed report called for by Specification Section 01 60 00. If not attached, explain why in the following space:

Complete and submit three copies of this form with the detailed report to RESIDENT PROJECT REPRESENTATIVE as specified.

SECTION 01 71 23
LINES AND GRADES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. General
- B. Surveys
- C. Datum Plane
- D. Protection of Survey Data
- E. Related Work Specified in Other Sections Includes, But is Not Limited to, the Following:
 - 1. Section 01 78 00 - Contract Close Out
 - 2. Section 33 05 53 - Buried High Density Polyethylene Pipe and Fittings
 - 3. Section 33 05 55 - Buried Ductile Iron Pipe and Fittings

1.2 GENERAL

- A. Construct Work in accordance with the lines and grades shown. Assume full responsibility for keeping alignment and grade.

1.3 SUBMITTALS

- A. General: Furnish submittals, including the following, as specified in Division 1.
- B. Shop Drawings:
 - 1. Alignment survey signed and sealed by a land surveyor registered in the State of Wisconsin, as specified in Sections 33 05 53 and 33 05 55.
- C. Quality Control:
 - 1. Field survey data of located pipe, utilities, appurtenances, pavement and structures signed and sealed by the land surveyor registered in the State of Wisconsin, as specified in Section 01 78 00.

1.4 SURVEYS

- A. Control Points: Base horizontal and vertical control points will be established or designated by the RESIDENT PROJECT REPRESENTATIVE and used as datum for the Work. Perform additional survey, layout, and measurement work as specified.
1. Keep RESIDENT PROJECT REPRESENTATIVE informed, sufficiently in advance, of the times and places at which work is to be performed so that base horizontal and vertical control points may be established and any checking deemed necessary by RESIDENT PROJECT REPRESENTATIVE may be done, with minimum inconvenience to the RESIDENT PROJECT REPRESENTATIVE and at no delay to CONTRACTOR. It is the intention not to impede the Work for the establishment of control points and the checking of lines and grades set by the CONTRACTOR. However, when necessary, suspend working operations for such reasonable time as the RESIDENT PROJECT REPRESENTATIVE may require for this purpose. Costs associated with such suspension are deemed to be included in the Contract Price, and no time extension or additional costs will be allowed.
 2. Provide an experienced survey crew including an instrument operator, competent assistants, and any instruments, tools, stakes, and other materials required to complete the survey, layout, and measurement of work performed by the CONTRACTOR.
- B. Alignment Survey and Laying Schedule
1. Employ the services of a land surveyor, registered in the State of Wisconsin, to survey the centerline alignment of the proposed pipeline. Field verify the size, type of pipe joints, station, offset and elevation of each proposed tie-in location to existing infrastructure or proposed Work done or to be done by others. Survey at a minimum of one location upstream and one location downstream of the proposed tie-in location. Note in the survey horizontal points of intersection and deflection angles with their respective field stations. Reference the alignment survey to the survey line shown. Note existing ground surface elevations over the centerline of the new pipeline in the survey, with respective field stations, at 100-foot intervals.
 - a. In the event of discrepancies between the centerline stationing shown and that obtained by actual field survey, notify the RESIDENT PROJECT REPRESENTATIVE and the ENGINEER. The ENGINEER will advise the CONTRACTOR of any appropriate adjustments in alignment.
 2. Upon completion of the alignment survey, furnish the survey, along with the CONTRACTOR's proposed installation sequence, in electronic format to the ENGINEER, RESIDENT PROJECT REPRESENTATIVE, and pipe

material supplier. Coordinate with the pipe material supplier in developing a pipe laying schedule based on the alignment survey, vertical alignment shown and CONTRACTOR's installation sequence. Completely define the horizontal and vertical centerline alignment of the pipeline, as well as every piece of pipe, fitting, closure, bend and appurtenance to be employed in its construction in a tabular laying schedule. Layout drawings are not an acceptable substitute for the laying schedule. Assume responsibility for the accuracy of the laying schedule and for the complete and correct construction of the pipeline in place as shown, specified and directed, and for observing the need for and making any changes in the arrangement of piping, connections, wiring, manner of installation, and other items which may be required by the materials and equipment proposed to supply both as pertains to the Work and any Work affected under other parts, headings, or divisions of the Contract Documents. Assume responsibility for misfits due to errors in submittals.

3. Require CONTRACTOR's land surveyor to establish construction centerline offset hubs at 50- to 100-foot intervals as directed by the RESIDENT PROJECT REPRESENTATIVE. Protect these hubs from displacement or damage during construction. Reset any offset hubs damaged or displaced by the land surveyor.

C. Surveys for Record Drawings

1. Obtain and furnish to the ENGINEER and RESIDENT PROJECT REPRESENTATIVE surveys of the locations and elevations of pipe constructed for this Project for the ENGINEER's use in developing record drawings as specified in Section 01 78 00. Accomplish survey work by a land surveyor registered in the State of Wisconsin.

1.5 DATUM PLANE

- A. Elevations indicated or specified refer to the following datum and are expressed in feet and decimal parts thereof, or in feet and inches:
 1. Horizontal: Wisconsin State Plane Coordinate System, South Zone, NAD27
 2. Vertical: National Geodetic Vertical Datum of 1929 (NGVD29)

1.6 PROTECTION OF SURVEY DATA

- A. General: Safeguard points, stakes, grade marks, known property corners, monuments, and bench marks made or established for the Work, including protection of marks provided by utilities or private companies. Reestablish them if disturbed, and bear the expense of checking reestablished marks and rectifying work improperly installed.

- B. Records: Keep neat and legible notes of measurements and calculations made in connection with the layout of the Work. Furnish such data to the RESIDENT PROJECT REPRESENTATIVE for use in checking the CONTRACTOR's layout. Data considered of value to the OWNER will be transmitted to the OWNER by the RESIDENT PROJECT REPRESENTATIVE with other records on completion of the Work.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION

SECTION 01 73 29

CUTTING AND PATCHING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. General Requirements
- B. Scheduling of Shutdown

1.2 RELATED SECTIONS

Related Work Specified in Other Sections Includes, but is Not Limited to, the Following

- A. Section 01 11 00 - Summary of Work

1.3 GENERAL REQUIREMENTS

- A. Coordination: Perform all cutting, fitting or patching of the Work that may be required to make the several parts thereof join in accordance with the Contract Documents. Perform restoration with competent workmen skilled in the trade.
- B. Improperly Timed Work: Perform all cutting and patching required to install improperly timed work, to remove samples of installed materials for testing, and to provide for alteration of existing facilities or for the installation of new Work in the existing construction.
- C. Limitations: Except when the cutting or removal of existing construction is specified or indicated, do not undertake any cutting or demolition which may affect the structural stability of the Work or existing facilities without the RESIDENT PROJECT REPRESENTATIVE's concurrence.

1.4 SCHEDULING OF SHUTDOWN

- A. Connections to Existing Facilities: If any connections, replacement, or other work requiring the shutdown of an existing facility is necessary, schedule such work at times when the impact on the OWNER's and property owners' normal operation and the public's use of the site is minimal. Overtime, night and weekend work without additional compensation from the OWNER, may be required to make these connections, especially if the connections are made at times other than those specified.

- B. Request for Shutdowns: Submit a written request for each shutdown to the OWNER and the RESIDENT PROJECT REPRESENTATIVE sufficiently in advance of any required shutdown.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.1 PREPARATION

- A. Safeguards: Provide all shoring, bracing, supports, and protective devices necessary to safeguard all work and existing facilities during cutting and patching operations.
- B. Location of Embedments: Employ impulse radar (non x-ray type) nondestructive testing prior to core drilling or cutting of existing walls, floors and ceilings to identify location of embedded pipes or conduits.
- C. Material Removal: Cut and remove all materials to the extent shown or as required to complete the Work. Remove materials in a careful manner with no damage to adjacent facilities. Remove materials which are not salvageable from the site.

3.2 RESTORATION

- A. Final Appearance and Finish: Restore all work and existing facilities affected by cutting operations, with new materials, or with salvaged materials acceptable to the RESIDENT PROJECT REPRESENTATIVE, to obtain a finished installation with the strength, appearance, and functional capacity required. If necessary, patch and refinish entire surfaces.

END OF SECTION

SECTION 01 74 00

CLEANING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Final Cleaning
- B. Final Inspection

1.2 FINAL CLEANING

- A. Requirements: At the completion of work and immediately prior to final inspection, clean the project as follows:
 - 1. Thoroughly clean, sweep, wash, and polish work and equipment provided under the Contract, including finishes. Leave the structures and site in a complete and finished condition.
 - 2. Direct subcontractors to similarly perform, at the same time, an equivalent thorough cleaning of work and equipment provided under their contracts.
 - 3. Remove temporary structures and all debris, including dirt, sand, gravel, rubbish and waste material.
 - 4. Should the CONTRACTOR not remove rubbish or debris or not clean the vaults and site as specified above, the OWNER reserves the right to have the cleaning done at the expense of the CONTRACTOR.
- B. Employ experienced workers, or professional cleaners, for final cleaning.
- C. Use only cleaning materials recommended by manufacturer of surface to be cleaned.
- D. In preparation for substantial completion or occupancy, conduct final inspection of sight-exposed interior and exterior surfaces, and of concealed spaces.
- E. Remove grease, dust, dirt, stains, labels, fingerprints, and other foreign materials from sight-exposed interior and exterior finished surfaces. Polish surfaces so designated to shine finish.

- F. Repair, patch, and touch up marred surfaces to specified finish, to match adjacent surfaces.
- G. Remove snow and ice from access to vaults.
- H. Handle materials in a controlled manner with as few handlings as possible. Do not drop or throw materials from heights.
- I. Schedule cleaning operations so that dust and other contaminants resulting from cleaning process will not fall on wet, newly-painted surfaces.
- J. Wash and wipe clean all lighting fixtures, lamps, and other electrical equipment which may have become soiled during installation.
- K. Broom clean exterior paved surfaces; rake clean other surfaces of the grounds.
- L. Remove erection plant, tools, temporary structures and other materials.
- M. Remove and dispose of all water, dirt, rubbish or any other foreign substances.

1.3 FINAL INSPECTION

After cleaning is complete the final inspection may be scheduled. The inspection will be done with the OWNER, ENGINEER, and RESIDENT PROJECT REPRESENTATIVE.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION

SECTION 01 78 00

CONTRACT CLOSE OUT

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Record Drawings
- B. Survey Data
- C. Special Tools

1.2 SUBMITTALS

- A. General: Furnish submittals, including the following, as specified in Division 1.
- B. Quality Control:
 - 1. Make available field books, notes, and other data developed or obtained in performing the surveys required by the Work to the RESIDENT PROJECT REPRESENTATIVE for examination throughout the construction period.
 - 2. At completion of the Contract and as a prerequisite for final payment:
 - a. Furnish field books, notes, and other data developed or obtained in performing the surveys required by the Work.
 - b. Furnish clearly readable, reproducible Contract Drawings reflecting changes made during construction. Mark each drawing "Record Drawing" in ink.
 - c. Deliver to the OWNER the original and one copy of bonds, warranties, guarantees and similar documents, including those customarily provided by manufacturers and suppliers which cover a period greater than the one year correction period. Show OWNER as beneficiary of these documents.
- C. Operation and Maintenance:
 - 1. For each type of equipment provided under this Contract, furnish a complete set of special tools and grease guns and other lubricating devices, which may be needed for the adjustment, operation, maintenance, and disassembly of such equipment. Special tools are considered to be those tools which, because of their limited use, are not normally available but which are

necessary for maintenance of particular equipment. Furnish only tools of high grade, smooth forged alloy tool steel. Manufacture grease guns of the lever type.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.1 RECORD DRAWINGS

- A. Maintain on-site, in good order, one record copy of original Contract Documents, Specifications, and any other documents related to the project. Using drafting symbols and standards consistent with the original documents, annotate Contract Drawings to show changes made during the construction period.

- 1. Annotate the following items at a minimum:

- a. Horizontal and vertical deviations of pipe, ends of steel casings, ends of HDPE pipe segments, valve nuts, valve centerlines, precast vaults, including rim and invert, concrete encasements, and cathodic protection test station as follows:

- (1) Horizontal:

- (a) More than 1-foot or one-half the diameter of the pipe, as applicable, whichever is less.

- (2) Vertical:

- (a) More than 0.5-feet for pressure pipe systems.
 - (b) More than 0.1-feet for gravity pipe systems.

- b. Deviations of existing utilities as follows:

- (1) Top of pipe elevation, if deviation exceeds the horizontal and vertical deviation requirements of this Section, size, material, and type of utilities encountered in excavations. Locate by station/offset.
 - (2) Catch basins, manholes, and other structures that were encountered in excavations if deviation exceeds the horizontal and vertical deviation requirements of this Section. Locate by

station/offset. Annotate invert elevations for pipes at these structures.

- c. Size, material, depth, location, and limits of any abandoned pipe. Include type of abandonment. Locate by station/offset.
- d. Limits, dimensions, and depth of concrete encasements.
- e. At Horizontal Directional Drilling (HDD) Segments:
 - (1) A plan view showing the centerline location of each pipe installed via HDD, or installed and placed out of service. Show the remainder of the horizontal alignment of the centerline of each pipe installed via HDD, or installed and placed out of service, and note the accuracy of with which the installation was monitored.
 - (2) A profile drawing for each bore path showing the ground or pavement surface and the crown elevation of each pipe installed via HDD, or installed and placed out of service. Show the remainder of the vertical alignment of the crown of each pipe installed via HDD, or installed and placed out of service, and note the accuracy with which the installation was monitored. If the profile drawing for the bore path is not made on a copy of the Contract Drawing profile, use 10 to 1 vertical exaggeration.
 - (3) If the bore path is abandoned without installing the high density polyethylene (HDPE) pipe, show the abandoned bore path on the Record Drawings and callout as "Abandoned Bore Path." Show the location and the length of the drill head and any items not removed from the bore path.
- f. EMS Markers.

- 2. Annotate deviations using a "cloud". If changes require a change order, annotate the change order number in the "cloud".
- 3. Annotated drawings are to be made available to RESIDENT PROJECT REPRESENTATIVE for reference at all times.

3.2 SURVEY DATA

- A. Survey coordinates and elevations to within 0.01 feet in the coordinate system and datum specified in Section 01 71 23 for field located pipe, utilities, appurtenances, pavement and structures by a land surveyor registered in the State of Wisconsin.

Indicate the type of item surveyed in each layer. Field locate constructed elements, including:

1. Top of pipe every 50 feet along pipeline
2. Gate and butterfly valves:
 - a. Valve nuts
 - b. Valve centerline
 - c. Valve pads
3. Top of air valve vent riser pipes
4. Precast vaults:
 - a. Rim
 - b. Invert
 - c. Top of pipe
5. Fittings, plugs, caps, flange insulating kits, and special joints
6. Taps for disinfection and testing, as applicable
7. Blow-off assemblies:
 - a. Connection to pipeline
 - b. Blow-off outlet
8. Cathodic protection:
 - a. Galvanic magnesium anodes
 - b. Test stations
9. Tracer wire test stations
10. Concrete encasements
11. Ends of steel casings
12. Ends of HDPE pipe segments

13. Other public and private utilities encountered during construction that cross over or under new pipe
14. Roadways, sidewalks, and trails:
 - a. Roadway section (edge of pavement – crown – edge of pavement) at each storm drainage structure
 - b. Roadway section (edge of pavement – crown – edge of pavement) 200-feet minimum between sections
15. Curb and gutter at intervals of 50 feet

END OF SECTION

(NO TEXT FOR THIS PAGE)

SECTION 01 78 23

OPERATION AND MAINTENANCE MANUALS

PART 1 GENERAL

1.1 DESCRIPTION

- A. Scope: Furnish to the ENGINEER two hardcopies, and one electronic version on USB flash drive in PDF format of an Operation and Maintenance Manual for all equipment and associated control systems furnished and installed.

1.2 SUBMITTALS

- A. Prior to the Work Reaching 50 Percent Completion, submit to the ENGINEER for approval one electronic copy on USB flash drive of the manual in PDF format with all specified material. Submit the approval copies with the partial payment request for the specified completion. Provide space in the manual for additional material. Submit any missing material for the manual prior to requesting certification of substantial completion.
- B. Provide one copy of the final CONTRACTOR's Operation and Maintenance manual electronically on USB flash drive complete after the submission of any missing material prior to requesting certification of substantial completion. CONTRACTOR will ensure that all material required for a complete CONTRACTOR's Operation and Maintenance Manual. The electronic version of the final manual will be submitted in the latest PDF file format and follow the same contents, organization, and formatting as the final hardcopies of the manual. Provide two hard copies of the final CONTRACTOR's Operation and Maintenance manual and one electronic version of USB flash drive. Provide the hard copies only after completion of equipment startup and training.

1.3 FORMAT AND CONTENTS

- A. Prepare and arrange each copy of the manual as follows:
 - 1. One copy of an equipment data summary (see sample form) for each item of equipment.
 - 2. One copy of an equipment preventive maintenance data summary (see sample form) for each item of equipment.
 - 3. One copy of the manufacturer's operating and maintenance instructions. Operating instructions include equipment start-up, normal operation, shutdown, emergency operation and troubleshooting. Maintenance instructions include equipment installation, calibration and adjustment,

preventive and repair maintenance, lubrication, troubleshooting, parts list and recommended spare parts.

4. List of electrical relay settings and control and alarm contact settings.
 5. Electrical interconnection wiring diagram for equipment furnished including all control and lighting systems.
 6. One valve schedule giving valve number, location, fluid, and fluid destination for each valve installed. Group all valves in same piping systems together in the schedule. Obtain a sample of the valve numbering system from the ENGINEER.
 7. All information provided in the manual shall be modified so that it only includes information pertaining to the approved equipment and accurately depict the equipment provided. All "optional" and non-pertinent materials and information shall be excluded from the manual or noted as such.
 8. Furnish all O&M Manual material on 8-1/2 by 11 commercially printed or typed forms or an approved alternative format.
- B. Organize each manual into sections paralleling the equipment specifications. Identify each section using heavy section dividers with reinforced holes and numbered plastic index tabs. Use 3-ring, slant ring, hard-back binders Type No. AVE-VS11 as manufactured by Avery Company, or equal. Binder size shall be 3-inch maximum. Punch all loose data for binding. Arrange composition and printing so that punching does not obliterate any data. Print on the cover and binding edge of each manual the project title, and manual title, as approved by the ENGINEER.
- C. Leave all operating and maintenance material that comes bound by the equipment manufacturer in its original bound state. Cross-reference the appropriate sections of the CONTRACTOR's O&M manual to the manufacturers' bound manuals.
- D. Where more than one binder is required, label binders Volume 1, 2, and so on, and include the table of contents for the entire set, identified by volume number, in each binder.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION

Waukesha Water Utility

Contract Package 6

Equipment Data Summary

Equipment Name:

Specification Reference:

Manufacturer:

Name:

Address:

Telephone:

Number Supplied:

Location/Service:

Model No:

Serial No:

Type:

Size/Speed/Capacity/Range (as applicable):

Power Requirement (Phase/Volts/Hertz):

Local Representative:

Name:

Address:

Telephone:

NOTES:

Waukesha Water Utility

Contract Package 6

Preventive Maintenance Summary

Equipment Name:

Location:

Manufacturer:

Name:

Address:

Telephone:

Model No:

Serial No:

Maintenance Task	Lubricant/Part	D	W	M	Q	SA	A	O&M Manual Reference
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NOTES:

*D-Daily W-Weekly M-Monthly Q-Quarterly SA-Semi-Annual A-Annual

(NO TEXT FOR THIS PAGE)

SECTION 01 79 00

TRAINING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Training

1.2 TRAINING

- A. Training: Provide the services of knowledgeable, technically competent, factory trained specialists to instruct OWNER's personnel in the operation and maintenance of the equipment and system components listed in Paragraph B. The OWNER will furnish training classroom space.

1. Coordinate services with the OWNER, with a minimum of 30 days prior notice.
2. Provide a combination of classroom and "hands-on" instruction designed to completely familiarize operating and maintenance personnel with the systems theory, standard operating procedures, safety features and emergency procedures, and general maintenance of all components.
3. Conduct all training during regular hours on weekdays.

- B. Provide training on equipment listed in the following schedule, recommended by the manufacturer, or otherwise required:

<u>Specification</u>	<u>Equipment Name</u>	<u>Minimum Hours</u>
33 05 58	Cathodic Protection	4
33 05 70	Full Range EMS Markers	2
40 05 20	Air Valves	4
40 91 00	Dissolved Oxygen / Temperature Probe	2
40 91 00	pH Probe	2
40 91 00	Cameras	2
44 42 56	Submersible Pumps	4
46 51 53	Cascade Aerator	4

- C. Length of Training: The minimum lengths of training sessions are listed in Paragraph B. above.
- D. Credentials: Submit for approval, credentials of equipment manufacturer representatives who are to be course instructors at least 14 days prior to a proposed training session.
- E. Scheduling: Submit training outline and other information described in paragraphs G through K for approval at least 14 days prior to the proposed date for the training sessions. Verify scheduling with the OWNER at least 14 days prior to the training sessions.
- F. Number of Copies: For each training class, provide instructional material for at least ten attendees plus five extra copies, plus duplicate copies of all audio-visual aids utilized during each training course.
- G. Training Outline Submission: Provide a proposed training outline including the topics presented in Paragraph K. Identify specific components and procedures in the proposed training outline.
- H. Training Topic Detail: Detail specific training topics. Describe "hands-on" demonstrations planned for the training. Reference training aids to be utilized in the training (i.e. video tapes, slides, transparencies) and attach where applicable.
- I. Training Handouts: Attach training handouts to the proposed training outline.
- J. Training Segment Duration: Indicate the duration of each training segment.
- K. Training Outline:
 - 1. Equipment Operation
 - a. Describe equipment's operating (process) function.
 - b. Describe equipment's fundamental operating principles and dynamics.
 - c. Identify equipment's mechanical, electrical and electronic components and features.
 - d. Identify all support equipment associated with the operation of the subject equipment.
 - 2. Detailed Component Description
 - a. Identify and describe in detail each component's function.
 - b. Where applicable, group related components into subsystems.

- c. Identify, and describe in detail, equipment safety features and control interlocks.
- 3. Equipment Preventive Maintenance
 - a. Describe preventive maintenance inspection procedures required to perform and inspect the equipment in operation, and spot potential trouble symptoms (anticipate breakdowns).
 - b. Outline recommended routine lubrication and adjustments (preventive maintenance).
- 4. Equipment Troubleshooting
 - a. Define recommended systematic troubleshooting procedures.
 - b. Provide component specific troubleshooting checklists.
 - c. Describe applicable equipment testing and diagnostic procedures to facilitate troubleshooting.
- 5. Equipment Corrective Maintenance
 - a. Describe recommended equipment preparation requirements.
 - b. Identify and describe the use of special tools required for maintenance of the equipment.
 - c. Describe component removal/installation and disassembly/ assembly procedures.
 - d. Perform at least two "hands-on" demonstrations of common corrective maintenance repairs.
 - e. Describe recommended measuring instruments and procedures, and provide instruction on interpreting alignment measurements, as appropriate.
 - f. Define recommended torquing, mounting, calibration, and alignment procedures and settings, as appropriate.
 - g. Describe recommended procedures to check/test equipment following corrective repair.
- 6. Evaluation and Acceptance of Training Programs

- a. Following the completion of each training session, participants will evaluate the content and effectiveness of the training session using the Training Session Evaluation Form included in this Specification. For each training session, the criteria scores (A through G) of each participant's evaluation form will be averaged. Any single criteria with an average below 3.0 will result in a failing grade and will require the entire session to be reorganized and improved to address specific deficiencies noted in the returned evaluations, and rescheduled and executed for the target group. Provide repeated training courses or sessions at no additional cost to the OWNER.
- L. Certificate: Provide "Certificate of Instructional Services" signed by RESIDENT PROJECT REPRESENTATIVE and equipment representative, verifying that training has been accomplished to satisfaction of all parties. Use form provided in this section, and furnish RESIDENT PROJECT REPRESENTATIVE with three copies.
- M. Substantial Completion: Training provided by manufacturers' representative, RESIDENT PROJECT REPRESENTATIVE and OWNER does not constitute substantial completion.
- N. Equipment Use: Use of equipment for training will not void manufacturers' or contract warranties.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION

CERTIFICATE OF INSTRUCTIONAL SERVICES

Project _____

Equipment _____

Specification Section _____

Contract _____

I hereby certify the equipment Manufacturers' Representative has instructed OWNER's personnel in startup operation and maintenance of this equipment as required in the Contract Documents.

MANUFACTURER'S REPRESENTATIVE

Signature _____

Name: (print) _____

Title: _____

Representing _____

CONTRACTOR

Signature _____ Date _____

Name (print) _____

Title _____

RESIDENT PROJECT REPRESENTATIVE

Signature _____ Date _____

Name (print) _____

Title _____

COMMENTS:

Complete and submit three copies of this form to RESIDENT PROJECT REPRESENTATIVE upon completion of training as required by Specification Section 01 79 00.

TRAINING SESSION EVALUATION FORM

Name: _____

Date of Session: _____

Manufacturer/Supplier: _____

Equipment/System: _____

Criteria		Ranking (0 = completely unsatisfactory; 5 = completely satisfactory)					
A	Trainers ability to communicate clearly	0 ○	1 ○	2 ○	3 ○	4 ○	5 ○
B	Trainers experience with the product/equipment	0 ○	1 ○	2 ○	3 ○	4 ○	5 ○
C	Ability to answer technical questions	0 ○	1 ○	2 ○	3 ○	4 ○	5 ○
D	Training materials relevant to the equipment and clearly written	0 ○	1 ○	2 ○	3 ○	4 ○	5 ○
E	Trainer is well organized	0 ○	1 ○	2 ○	3 ○	4 ○	5 ○
F	Trainer has provided ample time for questions and follow-up	0 ○	1 ○	2 ○	3 ○	4 ○	5 ○
G	Handouts of material presented are available	0 ○	1 ○	2 ○	3 ○	4 ○	5 ○